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THE VALUE OF BIOLOGIC PRINCIPLES IN SURGICAL PRACTICE*

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RICHMOND, VA.

It cannot be too often emphasized that surgery should be more a science than an art. A surgeon who is a dexterous operator and who skilfully amputates a leg that with patience and scientific application could be saved is merely a good artisan, and is distinctly inferior to the surgeon who could save the leg even though he should be a bungling operator. The ideal is to be thoroughly imbued with the principles of the biologic sciences, thoughtfully to apply these principles, and at the same time to be mechanically skilful.

The science of anatomy is essential to the mechanics of surgery. He would be a poor locomotive mechanic who did not understand the construction of his engine; and in operations on the neck, for instance, a surgeon who is ignorant of anatomy would be like the proverbial bull in a china shop. A knowledge of anatomy is essential to good surgery, but in the ever shifting problems of tissue repair and metabolism, physiology is just as necessary. The principles underlying an operation are correct only if they conform to the laws of physiology and of repair of the tissue or organ that is affected. If we could get away from blindly following what some one says merely because he says it, and do things because of reasons that have sound biologic foundations, we should undoubtedly do work more satisfactory to our patients and to ourselves.

HYPEREMIA

Let us take an illustration from the practical work of a surgeon and see how thoughtful application of physiologic principles would have rendered a problem that appeared difficult more easy to solve: Hyperemia is connected in one way or another with all surgical questions, whether they concern treatment of inflammation or repair of a wound. It has long been known that blood is an enemy of the tubercle bacillus, and that obtaining a good supply of healthy blood is the only method of combating tuberculosis. About two decades ago when a patient with tuberculous peritonitis and ascites sought surgical treatment he might have been subjected to one of several procedures: One surgeon would have advised opening the abdomen and letting the sunlight in. Another thought it was best to dust the intestine with some special powder. Still another believed in drainage with a single tube, others with multiple tubes. All these methods secured more or less satisfactory results. Each surgeon, seeing his patient recover after using his own method, earnestly thought that this was the only correct procedure. The situation resembled very much that described in a poem in an old school reader in which four blind men went to see an elephant. One fell against its side and thought the elephant was like a wall; another embraced its leg and declared it resembled a tree; the third grasped its tail and said the animal was constructed like a rope, and the last felt its tusks and concluded that the elephant was very like a spear. The moral was that though each was partly in the right they all were in the wrong. So all these surgeons who were using different methods were unconsciously working on a principle that produced hyperemia, and it was this hyperemia, induced partly by draining off the fluid and so relieving pressure and partly by handling the intestine, that cured the tuberculosis. It was many years, however, before this fact was acknowledged by the various partisans.

The surgical treatment of slow or threatened gangrene has also been much discussed. Carrel and Guthrie,[1] after two experiments, concluded that the blood circulation in the leg of a dog could be completely reversed within six hours. They severed the femoral artery and vein just below Poupart's ligament and united by suture the cardiac end of the artery to the distal end of the vein, and the distal end of the artery to the cardiac end of the vein. After a few hours, when red blood was seen returning, they assumed that the circulation was reversed. I think it can now be stated, however, that it is impossible to reverse the circulation in this manner. In a series of experiments which have been reported elsewhere,[2] we have shown that when the severed femoral artery and vein of animals are sutured together in a reversed direction there is no real reversal of the circulation, and the arterial blood never goes more than a short distance below the knee and is then quickly switched back to the iliac veins through the dilated collateral vessels. Evidently what happened in Carrel's experiments was that dissection paralyzed the vasoconstrictor nerves, and the dilated capillaries permitted red arterial blood to flow through unchanged. When the sciatic and crural nerves are divided in a dog, red blood appears in the femoral vein because of the extreme dilatation of the capillaries. Clinically this is often seen to follow an application of the elastic tourniquet which, if left on for even a short time and removed, produces an intense flushing of the limb until the temporarily paralyzed vasoconstrictors have resumed their function. Many useless operations have been done attempting so-called reversal of the circulation in

* Read before the South Carolina Medical Association, Florence, S. C., April 16, 1919.

1. Carrel, Alexis, and Guthrie, G. C.: Ann. Surg. **43**: 203-215, 1906.
2. Horsley, J. S., and Whitehead, R. H.: A Study of Reversal of the Circulation in the Lower Extremity, J. A. M. A. **64**: 873-877 (March 13) 1915. Horsley, J. S.: Reversal of the Circulation in the Lower Extremity, Ann. Surg. **63**: 277-279 (March) 1916.

threatened gangrene. The only good accomplished was damming back the venous blood and forcing the small amount of arterial blood that reached the tissues to stay longer than it normally would and so deliver to the tissues more nutrition than would be possible when the arterial blood was quickly drained off by unobstructed veins. This can be very simply effected by ligating the femoral vein.

SURGERY OF GASTRO-INTESTINAL TRACT

Surgery of the gastro-intestinal tract suffers from the lack of application of physiologic principles. Take, for example, the popular operation of gastro-enterostomy. It does relieve the symptoms of many patients with duodenal or gastric ulcer. The unfortunate minority, however, that we would like to forget still have their symptoms, and restoration of the normal channels by undoing a gastro-enterostomy is an operation not infrequently performed. The cases that are cured by gastro-enterostomy have never been fully explained. Some say it is a drainage operation, and yet in draining other hollow viscera we do not open at the lowest point. We drain the gallbladder and the urinary bladder from the part opposite the most dependent portion, and we do an enterostomy in the distended loop of bowel that is nearest the incision, because we know that normal contraction or peristalsis will keep the bladder or bowel empty if an opening is made. By some it is claimed that gastro-enterostomy cures because the acidity of the gastric juice is lessened, and still others assert that by short circuiting the course of food, rest is given the ulcer; yet roentgenoscopy reveals that unless the pylorus is closed a considerable portion of food continues to go by this route, and no pyloric closure seems to be permanent unless a resection is made.

PERISTALSIS

Recent physiologic research by Cannon and Washburn,[3] which has been confirmed by Carlson[4] and others, has demonstrated that the hunger pains, or so-called pangs of hunger, in a normal stomach are due to excessive peristaltic contractions of the stomach. It has also been shown that the pains that come on with clocklike regularity after meals in duodenal or gastric ulcer are not produced by acid erosion of the ulcer by the hyperacid gastric juice, as was formerly taught, but are due to contraction of peristalsis on gastric nerves made sensitive by the inflammation of the ulcer. The character of the gastric juice has nothing to do with the pain except so far as it excites an abnormal amount of peristalsis. Food or sodium bicarbonate lessens peristalsis for a while and so relieves pain. Recent investigation seems to show that the stomach has a limited supply of nerves that conduct pain,[5] and these nerves, which are deep in the stomach wall, are made more sensitive than normal by the inflammation around an ulcer. Consequently, they register impulses of pain from the pressure of peristalsis that in a normal physiologic condition they would not register.[6] It is probable that gastro-enterostomy relieves pain by facilitating the emptying of the stomach and so lessening peristalsis. This, however, is largely the treatment of a symptom and not an effort to remove a pathologic condition and to restore tissues to their physiologic state.

In surgery of the intestine, the work of Cannon and Murphy in their studies of peristalsis after resection of the bowel has not received proper attention. Lateral anastomosis is still the method employed by many surgeons though, as shown by Cannon and Murphy,[7] peristalsis is practically abolished in the region of such an anastomosis. Food can be pushed through only when a column of it extends into a proximal (oral) loop where peristalsis is unimpaired. Postmortems in dogs with lateral anastomosis showed that there was always an accumulation of food at the site of the lateral anastomosis even when the rest of the intestinal tract was free, because severing the circular fibers, in this operation, abolished peristalsis, and the blind pouches could not be completely emptied. They found that in an end-to-end union there was not the slightest stasis of intestinal contents at the site of operation. Merely because the lateral union usually gives no disagreeable symptoms, its use has been continued. If the patient did not die it was assumed that he had sufficiently recovered. With attention to the triangular mesenteric spaces and careful closure of these and of other raw surfaces before the bowel is opened, together with disinfection of the bowel ends after opening, as good technical results are obtained in end-to-end union as after the lateral method, with the advantage of securing normal peristalsis and normal emptying.

SURGICAL DRAINAGE

One of the common problems in surgery, and a most interesting one, is surgical drainage. This question has revolved around the mechanics of drainage and what material to use, as well as when to drain; but the manner in which drainage acts has been largely disregarded. In surgical drainage, mechanical measures that are followed by fortunate results would appear ridiculous when no biologic problems exist. In preventing infection of a raw surface while draining a deep abscess, gauze is often placed over the raw surface. If we could convert this into a mechanical proposition and imagine that the pus was a solution of methylene blue and that it was flowing over this raw surface which had been covered with absorbent gauze to prevent contamination, we know that both the gauze and the wound would be deeply stained. However, this method of protection does act in a beneficial manner, and a wound is often by this means kept from septic infection. The drainage of a peritoneal abscess is practically always up hill, and is usually successful. If mechanics were the only principle, how could an appendical abscess ever be drained by putting a tube down to it through an abdominal incision? The whole method of drainage really depends on a reversal of the circulation in the local lymphatics and is chiefly a biologic process. It is nature's effort to extrude a foreign substance.

If a boy sticks a splinter into his toe and mild infection occurs, the sore "runs" seropus for many days. Finally, the splinter "works" to the surface and is removed. The next day drainage stops and the wound rapidly heals. The splinter has been washed to the surface by the reversed lymph current in an effort to extrude this foreign substance. After the splinter has

3. Cannon and Washburn: An Explanation of Hunger, Am. J. Physiol. **29**: 441, 1912.
4. Carlson, A. J.: The Control of Hunger in Health and Disease, University of Chicago Press, 1916, pp. 62-83.
5. Kast and Meltzer: Med. Rec. **70**: 1017, 1906. Ritter: Zentralbl. f. Chir. **35**: 609, 1908. Langley: Brain **26**: 23, 1903.
6. Ginsburg, Harry; Tumpowsky, Isidor, and Hamburger, W. W.: The Newer Interpretation of the Gastric Pain in Chronic Ulcer, J. A. M. A. **67**: 990-994 (Sept. 30) 1916. Hardt, L. L. J.: Pain in Active Pathologic Processes in Stomach or Duodenum, J. A. M. A. **70**: 837-839 (March 23) 1918.
7. Cannon and Murphy: Ann. Surg. **43**: 519-520.

been removed there is no stimulus for any further extrusion, the lymph current resumes its normal direction, and the wound closes.

In drainage of the abdominal cavity, where there is an enormous lymph space and where lymph is abundantly poured out, the effort to extrude a foreign body, which in this case would be a drainage tube, causes an immense flow of lymph that carries through the tube much of the septic products that would otherwise have been absorbed. Drainage, then, prevents positive pressure in the suppurating cavity and at the same time has the equally important function of being a stimulus for a reversal of the lymphatic circulation. When a wound is packed with gauze, the gauze acts as a foreign body; and instead of the wound absorbing the pus with which the gauze is saturated, the tendency is for the lymphatic circulation to be reversed, and for lymph to be poured out into the gauze in an effort to wash it away. Portions of the body in which the lymphatic supply is not so abundant as in the abdomen will require dependent drainage because there is not enough lymph constantly to flush out the septic cavity, and gravity must aid. The beneficial action of the cigaret drain, which is clogged with coagulated lymph in a few hours, becomes comprehensible when we view it as an exciting cause for reversal of the lymph circulation.

NEUROLOGIC AND BONE SURGERY

There are many problems in neurologic surgery which require some knowledge of physiologic principles in order to be settled satisfactorily. Spiller and Frazier have demonstrated that section of the posterior sensory root of the gasserian ganglion produces what is called "physiologic extirpation" of the gasserian ganglion. It has been known for years that a nerve which is injured on the central side of its ganglionic cells does not regenerate; yet when the operation of division of the posterior sensory root for tic douloureux was suggested, it was received with some skepticism. This operation is safer than surgical extirpation of the gasserian ganglion, and is followed by less trophic disturbance.[8] The plugging of foramina in the skull from which neuralgic sensory nerves have been removed in order to prevent regrowth of the nerves has sometimes been done with metal screws. Because an iron screw can stop a hole in a piece of wood is not necessarily a reason why it should be employed in living tissue. On the other hand, some substance that does not cause reaction in bone is preferable. What happens after an iron screw is applied? Nature in an effort to extrude the irritating foreign substance removes lime salts in its neighborhood, the bone softens, the screw becomes loose, and the nerve can grow around it.

The fashion for plating fractures fortunately is on the decline. Hundreds and probably thousands of fractures have been plated with heavy metal plates for no reason except that it appeals to the mechanical sense and because some eminent surgeons advocated this operation. In many cases it is followed by attempted extrusion of the plate and, like the splinter in the boy's toe, the plate has to be removed. To the casual observer it seems strange that permanent union does not always occur when a nice cabinet joint is made between the ends of a fractured bone and the ends are held securely in position by steel plates and screws. The same process goes on here as when an effort is made to plug a foramen in the bone with iron. The iron is an irritating foreign substance, and in order to extrude it, nature causes an absorption of the lime salts. As a result, a screw which may at first be firmly fixed in the bone soon becomes loose. But more important is the fact that osteoporosis is induced in this effort at extrusion, and callus formation is thereby prevented or retarded. A poorly fixed fracture without the use of metal is more likely to give eventual good results than the neatest union by means of heavy plates and screws.

EFFECT OF EMOTIONS

That emotions have considerable bearing on the prognosis in certain cases of surgery has long been accepted. Cannon[9] has demonstrated that fright or profound anxiety causes a stimulation first of the sympathetics and then of the suprarenals. The action of epinephrin amounts to a prolonged stimulation of the sympathetic nervous system. Thus the body is put on what may be called a war basis, the circulation is more active, the heart beats faster, the pupils are dilated, respiration is accelerated, and metabolism generally is increased. Often there is so much glycogen released from the liver as to cause marked glycosuria, especially if the body is at rest; but if the emotions are accompanied by physical action, as fighting or running, this excessive amount of sugar may be consumed. The moral is that in some surgical cases it undoubtedly makes the prognosis better if emotions of fear or anxiety are allayed as much as possible. In diseases such as exophthalmic goiter, measures that abolish or diminish fear or excitement are of the greatest importance.

TRANSPLANTATION OF ORGANS

Skin grafting and transplantation of organs or tissues are dependent on biologic laws. Surgeons who have had great experience in this type of work, such as Lexer[10] and Davis, believe that skin grafts from others than the patient are practically never permanent. They either melt away at once or, if they appear to "take," are later absorbed and replaced by connective tissue. It has been suggested that tests, as for transfusion of blood, would be of benefit in selecting a donor for skin grafting; but so far this has not been put to any extensive practice. The transplantation of highly developed organs, such as a kidney, from one animal to another, even if of the same species, is always a failure. The kidney may functionate for a while, but the fine biologic differences in the body fluids of the donor and the recipient cause degeneration, and the kidney eventually becomes a mass of connective tissue. This has been acknowledged by Carrel, Guthrie and others who were at one time enthusiastic about the success of such a procedure. The reconstruction of channels, as the bile ducts, from tissues that have no immunity to the irritating discharges with which they must come in contact is also unwise. Operations in which strips of fascia, pieces of vein,[11] and other tissue unaccustomed to the action of bile are used ultimately result in failure, no matter how skilfully the mechanical part of the operation is done.

8. Frazier, C. H.: A Surgeon's Impression of Trigeminal Neuralgia, J. A. M. A. **70**: 1345-1350 (May 11) 1918.

9. Cannon, W. B.: Bodily Changes in Pain, Hunger, Fear and Rage, New York, D. Appleton & Co., 1915, pp. 52-80.

10. Lexer, E.: Ann. Surg. **60**: 172-174, 1914.

11. Horsley, J. S.: Reconstruction of the Common Bile Duct, J. A. M. A. **71**: 1188-1194 (Oct. 12) 1918.

CONCLUSION

These are merely a few instances of what every surgeon sees in his work, and they illustrate the profound influence that the application of biologic principles has on surgical practice. Real progress in surgery lies not so much in cultivating the art of surgery and in striving after mechanical dexterity, which is important but can be acquired in a few years, as in the study of biologic principles that concern function, nutrition, metabolism, and repair of tissues, and in the thoughtful application of these principles to every operation and to every method of surgical treatment.

A CASE OF TETANUS ILLUSTRATING MODERN METHODS OF TREATMENT

M. S. WOOLF, M.A., B.Sc., M.R.C.S. (ENG.), L.R.C.P. (LOND.)
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SAN FRANCISCO

During the past four years, thousands of cases of tetanus have been treated with varying degrees of success. But there is still doubt in the minds of many as to the efficiency of antitetanic serum as a therapeutic measure.

Since the causative organism of the disease is anaerobic,* it is probably most toxic when excluded from oxygen either by being in the deep tissues of the patient or in combination with anaerobic organisms, such as *B. subtilis* or *B. pyocyaneus*, which will exhaust any supply of oxygen present. *B. tetani* may be cultivated, however, in increasing supplies of oxygen until it finally loses its virulence. It may be locked up in a healed and therefore sealed wound for months and regain a practical toxicity during the advent of pyogenic organisms to a new wound, operative or otherwise, when tetanic symptoms disappeared months before; or, indeed, after no previous signs of tetanus had manifested themselves. A case[1] has occurred in which, 200 days after injury, an operation was performed for bone grafting. Six days after this, tetanus set in and three days later the patient was dead.

REPORT OF CASE

History.—A boy, aged 16 years, while in company with three other boys, Oct. 17, 1918, hunting ducks with No. 12 gage shotguns, was accidently shot in the left thigh at a distance of 2 or 3 feet. He was taken to the Monterey Peninsula Hospital, where he was treated. On the tenth day he showed the first signs of tetanus. (This is a common lapse of time before the appearance of symptoms.) It is said that 25,000 units of antitetanic serum were given before he came to us, November 3; that is, seventeen days after injury and seven days after tetanic symptoms were first noticed.

The boy himself said he first noticed stiffness in his back and then his jaws felt locked. His teeth were "so tight that he could take food only through straws." He bit his tongue several times when his teeth came together, and evidence of this he had on admission.

He arrived at the University of California Hospital with marked trismus, retraction of head, gross Kernig sign, opisthotonos, boardlike abdomen, generalized contracture of body muscles and a fine risus sardonicus, a late and serious sign of the disease. His body was profusely perspiring, his respirations rapid.

Physical Examination.—Seventeen days after the original injury, on the outer and posterior aspect of the left thigh at the junction of the upper and middle thirds, there was an irregular quadrilateral area, 16 by 8 cm., from which the skin was denuded, exposing the muscular tissue. It appeared to be a surface wound, healthy red in appearance and almost flush with the skin. Roentgenoscopy disclosed about fifty small shot scatered about the femur at this level. There were markedly enlarged, discrete, painless glands in both groins. The jaws could not be opened more than 0.75 cm. between the incisors. The constantly recurring convulsions, which threw all the muscles of the body into tonic contraction at regular intervals, whereby the opisthotonos and the risus sardonicus were emphasized, were extremely distressing to the patient. In the intervals his respirations and pulse became very rapid and he perspired profusely.

Treatment and Course.—Our treatment was based on (1) securing rest, sleep and food; (2) postponement of active interference with the wound until tetanic symptoms should disappear, and (3) administration of antitetanic serum.

Thus the first order ran as follows:

Patient to have any food he can handle or cares for, liquid or semisolid. Morphin sulphate, 0.01 gm., after meals and every four hours for three doses.

Chloral hydrate was prescribed the same day, 0.6 gm. every four hours; and at the end of the same day morphin sulphate, 0.008 gm., and chloral hydrate, 0.6 gm., became routine every four hours. The teeth were open 0.75 cm. and the gag reflex was kept under control by the sedatives. Chloral is a particularly valuable antispasmodic in these cases of tetanus. The muscular contractions are responsible for so great a metabolism that the efficacy of a rectal drip or rectal feedings is negligible. The only way to prevent fatal exhaustion of a moribund patient is to maintain nutrition. This can be done by securing sufficiently long intervals of remission from spasms, so that the patient is able to swallow or at least will not reject the food. In the first fifteen hours, this boy had 19,500 units of tetanus antitoxin intravenously and considerable nourishment. At times and simultaneously with the injections of serum, he often had relief from chloroform inhalation, under which he was kept as long as an hour. Night and day every four hours, first 5,000 and later 10,000 units of antitoxin were administered almost entirely by the vein. In seven days he received 172,000 units intravenously. Once we gave him a special intraspinal dose combined with an intramuscular one in addition. For five days he made no obvious improvement, but became no worse and was at times easy. The gratifying feature was that the trismus still remained incomplete.

There should be an explanation of the large doses of antiserum used in the treatment of the case under question, the continued doses of chloral and morphin, and the route selected for the administration of the serum.

Improvement was noticed first on the ninth day. The temperature was normal on the tenth day. There were no symptoms on the twenty-fifth day except local signs of a mildly suppurating wound which was, considerably later, curetted.

Treatment was confined to (1) rest, quiet, nourishment obtained by intradermal injections of morphin at four hour intervals, with chloral by mouth at the same intervals and chloroform when indications required it, and (2) intravenous injections of antitetanic serum up to 10,000 U. S. A. units, at four hour intervals. The main symptoms were universal tetanic spasms, intense reflex sensibility, and incomplete but severe trismus. There was no surgical interference with the wound while tetanic symptoms remained.

COMMENT

MacConkey[2] says:

If we compare the mortality of all the cases treated with serum with that of the cases treated without, we must allow that the use of the serum brings little if any advantage. But if we compare the mortality of the cases treated with large amounts of serum with the mortality of the case treated with small amounts, then the beneficial results following such use of serum become manifest.

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1. Tetanus Lighted up by Operation, Brit. M. J. **1**: 883 (June 30) 1917.

2. MacConkey, A.: Brit. M. J. **2**: 609 (Oct. 10) 1914.

In his article he gives the figures of 51 and 70.2 per cent. as the recovery under the treatment with small and large doses, respectively. In addition, as if thoroughly to confirm, he mentions Van der Bogert's quotation of Strock (1907), who treated his cases of tetanus during six years with small doses of serum and had a mortality of 100 per cent. Then he treated five cases with very large doses, and the mortality was 20 per cent.

What are large and what are small doses? Strock used in the individual treatment of his cases from 150,000 to 587,000 U. S. A. units. When we consider that a prophylactic dose is considered effective with from 500 such units in mild cases to 1,500 units in severe cases, we get an idea how great are to be the doses employed in the therapy of the disease. In the early stages of the war in England, we were satisfied with using a total of some 60,000 units, but I have no doubt in my mind that we used by far too small and too infrequent amounts.

Often one is accustomed to compare the use and dosage of antidiphtheritic serum with antitetanic serum; but owing to the peculiarly fixed way in which tetanic toxin combines with its chemotactic allies in the nervous system, one may only justly compare the state of *Bacillus tetani* with that stage of diphtheria which causes diphtheritic palsy.

We gave our antitoxin almost entirely intravenously. I am sure that if we had attempted to give our large doses of serum intraspinally six times a day, either we should have so stimulated the already critically sensitive reflexes to a point of the utmost danger or we should have had to endanger the patient's life with repeated administration of chloroform or ether. Our patient reacted well to the antitoxin given in this way. He developed during the first two injections some urticaria and irritation of the skin, showing a mild form of serum sickness, and once later he became a little cyanosed and dyspneic.

I am not convinced that the intrathecal route is the wisest in all cases. For rapidity of action I believe it is not so quick as the intravenous route. Intravenous anesthesia is no whit tardier than spinal anesthesia, and such anesthesia acts through the central nerve cells. The vascular system is more deliberate and more uniform in its distribution than the casual administration of a fluid into the spinal theca. We tried once an intrathecal injection of the antitoxin, and subsequently the patient had more distress in the way of elevated temperature, more rapid respirations, and spasms than by any of the intravenous injections.

Vaccination by the Spaniards.—The news item recently published in THE JOURNAL in regard to the enforcement of vaccination in Madrid, renders interesting the centennial, Feb. 12, 1919, of the death of the Spanish physician, Dr. F. Balmis, who was sent by the king of Spain, by royal order, dated June 3, 1803, to vaccinate the natives of the Spanish possessions in America. The official report of this "sanitary crusade" to New Spain was published in 1806. Stops were at the Canaries, Porto Rico, Caracas and Vera Cruz, and headquarters were established at the capital of Mexico. Balmis also organized a vaccination service for the Philippines. An account of his trip in the *Siglo Medico* states that he succeeded in taking fresh vaccine to Macao and Canton, which the British had never succeeded in doing as the vaccine brought from England had always proved inert. At St. Helena he found the English residents skeptical in regard to vaccination. The expedition lasted two years and nine months. Similar expeditions were sent out by Holland to its East Indian colonies and by Portugal to Brazil.

BROMIDROSIPHOBIA

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There exist a few small groups of nervous and mental disorders which involve the skin only secondarily, and which cannot logically be classified with the true neurodermatoses. Despite this fact, it is on the dermatologist that the responsibility of their clinical recognition largely rests. The more common of these affections, such as trichotillomania[1] and trichokryptomania belong in the category of "tics," or habit spasms. Next in frequency of occurrence are some of the various fear psychoses, which are characterized by a morbid dread of parasitic contamination, and of which acarophobia[2] and syphilophobia are typical examples. By patient and careful questioning, one can occasionally uncover the basis on which a fear of this kind rests, and, if the patient is sufficiently intelligent, the possibility of infection ever having taken place can be explained away. I once encountered such an instance in the case of a young woman who for more than three years had suffered from a severe traumatic dermatitis of the hands. The patient, who appeared mentally normal, had had an unfortunate matrimonial experience, and been granted a divorce from her husband about two and one-half years before she came under my professional care. Her mother told me that twenty or more times each day the younger woman would go quietly to the bathroom and thoroughly wash and scrub her hands with soap and water and a small brush, afterward applying an antiseptic, such as alcohol or compound solution of cresol. Naturally, the various local remedies prescribed for the dermatitis gave very little relief. After the patient's confidence had been gained, she confessed that her previous husband had contracted a gonorrheal urethritis about nine months prior to the time of their separation, and it was through fear of infection that she was constantly bathing and scrubbing her hands. When the matter was fully explained to her by Dr. A. L. Skoog, to whom I referred her for treatment, and she was convinced that there was no possibility of her becoming contaminated by this route, she discontinued the frequent scrubbing, and the dermatitis promptly disappeared.

Stokes[3] has reported a series of somewhat similar cases. Recently, I encountered a phobia of a different type, the fear being directed against an odor instead of an organism:

History.—A fairly intelligent man of 63, a retired farmer, had had the trouble about fourteen months. Eighteen months prior to the date of my first examination, he had developed an itchy disorder of the trunk. This affection had persisted for a fortnight or longer, but finally disappeared, leaving no trace. A few weeks later, the presence of the troublesome odor first became apparent. The trunk and axillae were primarily involved, but the area from which the "disagreeable emanation," as the patient rather grandiloquently called it, arose, gradually passed downward, and for the last twelve months had been confined to the feet and ankles.

He described the odor as of variable character. At the outset, it resembled that of "rotten onions," but at the time of the first consultation he thought his feet smelled as if he had not washed them for many months, although, he assured

1. Besnier: Monats. f. prakt. Dermat. **13**: 572, 1889. Blaisdell, J. H.: J. Cutan. Dis. **34**: 363 (May) 1916.
2. Pusey, W. A.: Principles and Practice of Dermatology, New York, 1917, p. 971.
3. Stokes, J. H.: Tr. Sect. Dermat. A. M. A. 1918, p. 214.

me, they had been bathed twice on that very day. He said that as a result of the constant and disagreeable odor, his friends had practically deserted him, and his children (he is a widower) did not care to have him come to their homes.

Examination.—The skin on all parts of the body was found to be normal for that of a man of 60. The soles were pink, soft and moist, and there was no exfoliation or maceration of the epidermis in the interdigital areas. There was no evidence of hyperhidrosis. The patient's shoes, which had been worn for several weeks, were no more odorous than those of an ordinary individual.

On the several different occasions that I have had opportunity to examine the patient, at no time have the extremities exhibited any unusual or particularly disagreeable odor. Despite this fact, the patient always insists that the odor is present, and that the condition is gradually growing worse instead of better.

The olfactory organs apparently are normal, and the commoner odors are recognized with ease and certainty, and without exaggeration. On matters other than the one here discussed, the patient converses intelligently and well, considering the fact that he is a man of limited education.

COMMENT

It may be that further investigation will reveal the factor underlying the psychosis in this particular case, but up to the present we have been unable to secure any tangible evidence to aid in the solution of the problem.

TREATMENT OF PNEUMONIA

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An epidemic of pneumonia began at Camp Wheeler about Oct. 5, 1918, and continued through the months of October, November, December and part of January, 1919. It appeared coincidently with an epidemic of influenza which swept through the camp at that time.

As two radically different methods of management were employed in the treatment of these pneumonias during this epidemic, a study of the results offers a fruitful field of observation and some helpful suggestions. It offers an opportunity to make a fair comparison between the so-called open air or open ward treatment (Group 1), in which the patient is kept practically in the open air, and the close ward management (Group 2), in which the patients are kept in warm, comfortable surroundings, well protected from cold and chilling, from currents of cold air sweeping over them through open corridors and doors, and from bathing, changing bed linen, caring for excretions, etc., in cold, chilly rooms.

The comparison between these two methods is fair because: First, the epidemic was continuous during the time this study was made. Second, the same disease, namely, influenza, and no other, was prevalent and acted as the underlying causal factor. Third, the same type of pneumonia, pathologically, was about equally distributed through the two groups; in Group 1, namely, those men treated from Oct. 5, to Nov. 24, 1918, the necropsy records showed 51.3 per cent. of lobular, 42.3 per cent. of lobar, and 6.3 per cent. of acute interstitial pneumonia; in Group 2, namely, those treated from Nov. 24, 1918, to Feb. 1, 1919, the postmortem records showed 33.3 per cent. of lobular, 60 per cent. of lobar, and 6 + per cent. of acute interstitial pneumonia. Fourth, a study of the bacteria present in the sputum and at necropsy in the fatal cases of the two groups revealed like organisms, differing only in small percentages in each group, with no predominance of virulent organisms in the group showing the highest mortality. Fifth, the number of cases observed in each group was large enough to correct any erroneous conclusions which might be drawn from the study of a small number of cases; in Group 1 (open ward group) 966 active cases, and in Group 2 (closed ward group) 435 active cases were observed. Sixth, the question of specific medication or special form of medical treatment did not operate as an important disturbing factor. There were minor differences in the management of the two groups of cases relative to the use of cardiac stimulants, sedatives, fluid intake, diet, specific serum medication, use of vaccines, etc., but these differences were not important and probably had little if any effect on the number of deaths in either group.

The method of management from Oct. 5, to Nov. 24, 1918, was the so-called open air or open ward treatment. It can be thus summarized:

1. All windows and doors in the wards were to be kept open day and night. Rain, cold winds and damp night air were no contradiction to the order.

2. No screens nor blankets were to be hung up at the windows or placed before the doors to prevent the free circulation of air in the wards.

3. Soldiers in the wards were encouraged to keep their heads close to the windows and lie so that the cold air sweeping in from the outside could be better breathed in. If a soldier complained of a cold draft of air on his head, he was told it was good for him; that the fresh air would make him well.

4. No cotton jackets or chest protectors were to be used. The patients were to be well supplied with blankets.

5. Ward fires were to be allowed to go out at night. On cold, damp days the wards were always cold and chilly, because all windows and doors were open. Under the open ward or open air treatment (Group 1) 966 patients with acute pneumonia were cared for between Oct. 5 and Nov. 24, 1918, with 135 deaths, a mortality of 13.9 per cent. November 24, while the epidemic was at its height, a radical change in treatment was made, as follows:

1. All windows and doors in the wards were ordered closed and patients guarded in every way possible from drafts of cold air, chilling and exposure.

2. All sick soldiers with pneumonia on outside porches were ordered moved into wards and cared for indoors where they were warm and comfortable.

3. Every soldier with pneumonia was provided with a cotton jacket to keep the chest warm and to protect it from drafts and currents of cold air.

4. Ward surgeons, nurses and corps boys were instructed to handle and care for their patients so as to avoid, at all costs, chilling. The bedclothing was to be kept tucked in. The arms were to be kept under the bed covers. Plenty of blankets were to be used on cold nights, etc.

5. Fires in wards were ordered kept going day and night. Wards were to be kept free from a feeling of chill in the air. This could not always be done on cold days.

6. Special nurses were provided for the desperately sick.

7. Bathing was discouraged except for purposes of cleanliness, and then only when wards were warm.

8. Attending medical officers were cautioned to avoid prolonged examinations and protect the patients well from chilling while examinations were being made.

Under the closed ward treatment (Group 2) as outlined in the foregoing, 435 patients with active pneumonia were cared for between Nov. 24, 1918, and Feb. 1, 1919, with fourteen deaths, a mortality of 3.2 per cent.

The question at once arises, Is the lowered mortality here shown in favor of the closed ward treatment a real gain in the management of the disease over the open ward method, or are the favorable results only a coincidence, an expression of a lowered mortality arising naturally in the latter part of the epidemic? It has been stated by Abrahams, Hallows and French[1] that the mortality is higher and the disease more severe in the early part of epidemics of influenza complicated by pneumonia. To quote from these authors: "It is when the epidemic is in its earlier days that it is apt to spread like wildfire and cause the greatest damage and the highest death rate."

The knowledge that we possess relative to the lowered vital force created in the tissues of the body when those structures are subjected to chilling, and a consideration of the lowered cell resistance against invading organisms created by exposure to currents of cold air, make it unreasonable to accept the open ward treatment of pneumonia as the best form of management. Any clinician who has walked through long wards of soldiers desperately sick with pneumonia, every man lying with his head and chest next to an open window through which, on cold days and nights, cold and often damp winds are blowing, who has seen these men with pinched, blue faces and cold hands and feet and has heard them again and again request that the windows and doors be closed to keep them from feeling chilly, cannot help but be convinced that this form of management for sick patients with an acute disease like pneumonia is unwise.

These patients must be kept warm and comfortable. Their skins must be red; not blue. They must feel warm; not cold. They must be cared for so as to be in a high state of febrile reaction with a high, full, bounding pulse. Heat, not cold and chilling, produces this effect.

The study of these 1,400 cases of pneumonia showing the low death rate in the Group 2 cases justifies this conclusion and points the way to the more successful management of this disease.

CONCLUSIONS

1. The epidemic of pneumonia coincident with influenza at Camp Wheeler showed a mortality of 13.9 per cent. in 996 patients (Group 1) treated by the open ward, cold air method.

2. The epidemic of pneumonia coincident with influenza at Camp Wheeler showed a mortality of 3.2 per cent. in 435 patients (Group 2) treated by the closed ward, no-chilling method.

3. While a diminished virulence of organisms or a higher resistance of soldiers may in part explain the lowered mortality in Group 2 (closed ward group), the difference in the mortality rate between the two groups is so pronounced that it seems reasonable to conclude that the no-chilling form of management employed in treating the Group 2 patients assisted in decreasing the mortality.

4. The evidence here presented warrants the more general employment by the profession of the closed ward, no-chilling management of pneumonia complicating influenza.

1. Abrahams, Adolphe; Hallows, Norman, and French, Herbert: Lancet **1**:1 (Jan. 4) 1919.

HEMOTHORAX FOLLOWING GUNSHOT INJURIES OF THE CHEST*

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Since hemothorax is one of the most frequent complications of chest injuries, it would probably facilitate our understanding of this condition if we review first the causes and sequence of events leading up to this serious complication.

Available statistics on gunshot wounds of the chest are indeed interesting and enlightening, especially when one compares the mortality statistics of this war with previous ones. Prior to the Civil War, accurate statistics were unavailable, but we are led to believe that chest wounds were invariably fatal. In the Civil War the death rate from chest wounds was 62 per cent.; in the Crimean War, 90 per cent.; in the Spanish-American War, 27 per cent., and in the present war available statistics show a wide variation, some investigators placing the mortality rate at 10 per cent., while others place it as high as 20 per cent. These conflicting figures are easily understood, and an accurate estimation cannot be obtained until a later date.

It would be natural to expect that the mortality rate of chest wounds should progressively drop with each succeeding war on the commonly accepted supposition that this mortality rate depends on the humaneness of the rifle bullet, and that this humaneness is due to the decreased sectional area and the increased velocity of the modern rifle projectile. However, this apparently beneficent advantage has been more than neutralized by the introduction of the high-explosive shell and the peculiar character of the present warfare, which necessitates a greater exposure of the upper part of the body.

Wounds of the chest comprise more than 2 per cent. of all casualties, and more than one half of these are due to rifle and machine-gun bullets. Deaths may be divided in the following percentages according to the location at which they occur:

1. *Battlefield.* One enemy investigator who examined 300 dead on the field found that 112 had fatal gunshot injuries of the thorax.

2. *Casualty clearing station and evacuation hospitals.* These show a mortality rate as high as 40 per cent.

3. *Base hospitals.* Here the death rate according to some authorities averages 8 per cent., while according to others it is 4 per cent. Soltau's records show a mortality of 27 per cent. of all chest cases reaching a medical unit.

The causes of death are twofold: anatomic and septic. Anatomic causes comprise the greater proportion, and these are the deaths occurring on the field or shortly after first medical aid is received. These anatomic causes are: (*a*) hemorrhage due to injury of the

* From U. S. Base Hospital No. 1.

* Owing to lack of space, this article is abbreviated in THE JOURNAL by the omission of several tabulated case reports. The complete article appears in the author's reprints.

large vessels; (*b*) double pneumothorax; (*c*) shock; (*d*) edema of the lung with asphyxia, and (*e*) complicating injuries of other parts. Sepsis is responsible for a number of deaths at the evacuation hospitals, and according to Soltau the following organisms are responsible for 9 per cent. of the deaths: gas-producing

CASE OF HEMOTHORAX

S. C., Pvt. Co. C, 151st Machine Gun Battalion
Date injured, Oct. 30, 1918

Description of Wound	Wound of entrance, left chest, fifth interspace, midaxillary line; shrapnel; foreign body still present
Immediate Symptoms	Was in sitting position when struck; walked 600 yards to dressing station; marked shortness of breath; no expectoration of blood
Operation	Simple dressing
Physical Findings	Right side normal. Right border heart at midsternum. Apex fifth interspace, 1 cm. inside of midclavicular line. Slight reduplication second sound. Heart apparently rotated backward to the right. Left chest: no evidence of diaphragmatic motion on left side but right lung covers heart during inspirations; dulness begins in third interspace. Fluid below. No sign of compression above. Marked curvature of spine conveyed to the right. Dulness on left side below eighth dorsal spine. No Grocco sign. In dull area lost breath sounds, diminished vocal fremitus. Absent tactical fremitus. Small amount fluid
Roentgen Findings	The heart is slightly displaced to the right. The left chest in its inferior half casts a dense shadow which obliterates the costophrenic angle and is probably due to a hemothorax. Two metallic fragments are noted in this region. The largest one measures 1.5 cm.
Aspirations	Not indicated

Clinical Course				Remarks
Date	Temp.	Pulse	Resp.	
11/13	98.6	88	22	
11/14	99.0	80	20	
11/13	98.6	82	20	White blood count, 13,880; polymorphonuclears, 58 per cent.; lymphocytes, 42 per cent.
	100.0	88	20	
11/14	98.0	84	21	
	99.0	90	21	
11/15	98.4	86	20	No cough; no expectoration; slight dyspnea on mild exertion
	100.0	92	21	
11/16	98.0	84	20	
	98.8	84	20	
11/18	98.0	86	20	General condition good
	98.8	88	21	Gaining in weight
11/20	98.6	84	21	Urine normal
	98.8	86	21	Temperature always normal
11/22	98.0			
	98.6			
11/24	98.6	..	..	Evacuated to Class D. Condition good

organisms, 48 per cent.; streptococci, 40 per cent., and lung organisms, 12 per cent.

The injuries to the thorax may be classified according to the structures involved:

1. Injuries to chest wall. Muscle laceration is always present in varying degrees, depending on whether the missile is a bullet or a shell fragment. Fracture of the ribs is, strange to say, an infrequent complication, and in seventy-five cases that I have observed, in only three were there fractured ribs.

2. Injuries to lung and pleura. Laceration of pleura and lung is always present in penetrating wounds, and the extent of the injury again depends on the character of the missile. Such injuries result in one or all of the following conditions: pneumothorax, hemothorax and lung collapse.

Unilateral pneumothorax is found most frequently in injuries due to shell fragments and to a lesser extent from rifle bullets. Double pneumothoraces, as I mentioned above, are included in the battlefield death rate.

Hemothorax is a most common finding and occurs in over 80 per cent. of chest injuries. It is a result of injury to vessels in the chest wall or is primarily due to bleeding from lacerated lung tissue.

Lung collapse of the affected lobe or contralateral lobe is an invariable result of injury, and it is probably due to Nature's attempt to control the hemorrhage from the bleeding surface. Both lung collapse and hemorrhage may occur without any perforation of the thoracic cage, and an ordinary tangential wound may be responsible for both conditions.

IMMEDIATE SYMPTOMS

On questioning over fifty patients with perforation of the lung, I elicited the following information: Those injured by rifle or machine-gun bullets experienced a light blow in the chest or back. Those sustaining shrapnel injuries experienced a heavy shocklike blow and were forcibly thrown to the ground.

Pain was the first symptom noted and was always described as only moderately severe, increasing with each respiration and referred directly to the site of the wound; but in about 10 per cent. of the cases it was referred to the shoulder, and in only one case was it referred to the upper abdomen. Most of the patients were able to walk distances varying from 100 yards to 3 miles, depending on the amount of dyspnea.

Nausea and vomiting—those precursors of shock—occurred in only 10 per cent. of the patients questioned.

Faintness in varying degrees was experienced by all, but only one became unconscious.

Dyspnea is a most constant symptom, and accompanied every penetrating chest wound, and was invariably complained of even by those suffering only tangential wounds. Here again the degree of dyspnea depended usually on the size of the missile. Machine-gun bullet injuries result in less discomfort than shrapnel wounds, which cause severe injury to the parietes with a consequent greater irritation of the pleura.

Cyanosis, according to those in a position to observe, is not a marked or constant symptom.

Probably those injured so severely as to go into shock must be included in the battlefield or casualty clearing death-rate, for I have seen only three patients who were so affected.

CASE OF HEMOTHORAX

C. C. S., Pvt. Co. L, 18th Infantry. Date injured, Oct. 4, 1918

Description of Wound	Gunshot wound, left chest, penetrating; wound of entrance near left axilla; imbedded near sternum in fifth interspace; shrapnel
Immediate Symptoms	Stricken down; crawled to shell hole; expectorated small amount of blood on second day after injury; some shortness of breath
Operation	Simple dressing; rest
Physical Findings	Respiratory excursion left side markedly decreased. Heart sounds normal. Dulness from third interspace downward. Heart: apex in fifth interspace, 2 cm. inside nipple line; breath sounds diminished anteriorly and clearly audible posteriorly; tactile and vocal fremitus diminished; probable organized clot or greatly thickened pleura
Roentgen Findings	In the region of the left costophrenic angle and extending up to the region of the fourth interspace there is a shadow of increased density which is probably the result of a thickened pleura or fluid. Left lung: its inferior half casts a dense shadow probably due to a hemothorax
Aspiration	October 31, negative. November 10, negative

Clinical Course				Remarks
Date	Temp.	Pulse	Resp.	
11/ 1	101.4	100	20	
11/ 2	100.4	96	24	Moderately severe dyspnea
11/ 3	101.4	92	22	Unable to walk on account of leg injury; dyspnea on exertion; no cough
11/ 4	100.4	96	24	
11/ 5	100.4	92	20	
11/ 6	100.0	94	20	
11/ 7	99.0	92	20	
11/ 8	100.2	84	20	Fluoroscope shows dense shadow, probably blood clot. 11/14: White blood count, 7,600; polymorphonuclears, 72 per cent.; lymphocytes, 28 per cent. 12/1: Temperature normal; no respiratory distress. Negative aspirations probably due to presence of organized clot. Dyspnea lessening. Condition good. Gaining in weight. Evidence of lung expansion
11/ 9	100.0	100	24	
11/10	98.6	90	22	
11/11	99.8	100	24	
11/12	98.6	92	22	
11/13	98.8	80	20	
11/14	98.0	96	20	

Hemoptysis, according to most observers, occurs in 90 per cent. of the cases; and in all patients whom I have questioned, with the exception of two, I received a definite history of hemoptysis. This was one of the first symptoms and to the patient the most alarming one, especially if the accompanying dyspnea was severe.

CASE OF HEMOTHORAX

G. P., Pvt. Co. I, 309th Infantry. Date injured, Nov. 11, 1918

Description of Wound	Shrapnel wound, penetrating right scapula region near posterior axillary line; no wound of exit
Immediate Symptoms	Severe pain right upper chest; was able to walk 1 kilometer; hemoptysis immediate, lasting seven hours; cough since then continuous with occasional blood-streaked sputum
Operation	Débridement of wound; thorax not opened
Roentgen Findings	The heart is slightly displaced to left side. Right lung shows evidence of a metallic fragment 2.5 cm. by 1.25 cm., lying on the level of the eighth rib about 3 cm. to the right of the median line surrounded by an area of increased density, which extends to the axillary line and which is probably due to the presence of hemothorax. There is evidence of a fracture of the sixth rib on its posterior aspect. Surrounding the fragment is a shadow of lesser density which may be due to the presence of suppurative focus
Physical Findings	Respiratory excursion equal on both sides. Heart: apex beat, fifth interspace; left border in nipple line. Left chest normal; dulness from midaxillary line posteriorly right side and from sixth dorsal downward; tactile and vocal fremitus diminished; whispered voice not heard posteriorly
Aspiration	Not indicated; no cardiac or respiratory embarrassment; temperature normal

Clinical Course				Remarks
Date	Temp.	Pulse	Resp.	
11/13	98.6 98.6	88	26	White blood count, 18,840; polymorphonuclears, 60 per cent.; lymphocytes, 40 per cent.
11/14	98.4 98.6	88 80	24	Slight cough increased on mild exertion
11/16	98.0 98.4	86	22	Expectoration moderate in amount; never blood-tinged
11/17	98.6 98.8	84	20	
11/18	98.6	86	21	Slight shortness of breath after mild exertion
11/20	98.6	84	21	General condition good; appetite good, increasing in weight
11/22	98.8	82	20	Urine normal
11/24	98.6	80	20	Temperature normal every day. Evacuated to Class D November 24; condition good; no change in physical findings

The amount of blood expectorated varied from blood-tinged sputum to mouthfuls of blood, and in every case in my series the hemoptysis lasted not longer than four days, probably until the injured lung had collapsed and effected hemostasis.

As regards treatment, I will confine myself strictly to cases I have observed; consequently a discourse on this all-important question will necessarily be as brief as the treatment accorded these particular patients. The records show that of twenty-five cases, twenty-two were surgically treated by simple débridement of the wound of entrance, with removal of the foreign body if readily accessible. Three cases were subjected to radical open operations in which the lung was exposed, the foreign body removed, the blood clot evacuated, and the pleura muscles, etc., closed in layers. Of these three cases, two developed signs of infected fluid from seven to ten days later, and resection with drainage was performed. The remaining patient made an uneventful recovery, and examination two weeks after operation showed only a small amount of blood in the costophrenic angle, with slight collapse of the lower lobe.

All gunshot wounds of the chest were kept under observation and treatment at the evacuating hospitals for not less than ten days, so that all cases coming under my observation at the base hospital were more than two weeks old, the average length of stay in the evacuation hospital being sixteen days.

TWO GROUPS OF CASES: STERILE AND INFECTED

Routine examination and several days' observation of these twenty-five cases made it possible to divide them readily into two groups:

Group 1 is made up of those cases, eleven in number, in which patients had suffered perforating machine-gun bullet wounds or less severe tangential wounds, and who had no symptoms with the exception of slight dyspnea on exertion and practically negative physical and roentgenographic findings.

Group 2, comprising also eleven in number, consists of those patients who had suspicious symptoms and definite physical findings both clinical and roentgenographic.

Those belonging to the first group were evacuated in two or three weeks. The second group comprised the hemothoraces.

Hemothorax occurs in 80 per cent. of gunshot wounds of the chest, and is due to hemorrhage into the pleural cavity from lacerated lung tissue and occasionally from injured intercostal vessels. It is usually observed on the third day after injury, and appears about the time that hemoptysis ceases. As for the symptoms resulting from this collection of blood, pain was practically negligible a few weeks following the injury, and complaint was made of only slight discomfort. Dyspnea depended on the extent of lung collapse and the amount of fluid present. While lying quietly no dyspnea was experienced in any of the aseptic cases I observed, but slight exertion, such as

CASE OF HEMOTHORAX

F. E. D., Sgt. Co. A., 7th Engineers. Date injured, Sept. 21, 1918

Description of Wound	Machine-gun bullet, left chest, opposite fourth dorsal spine, exit second interspace, to left of midclavicular line. November 14: posterior wound healed; anterior wound almost healed
Immediate Symptoms	Pain left chest and shoulder; no hemoptysis, at present some shortage of breath, slight; was able to walk 300 yards to dressing station
Operation	Simple dressing; rest
Roentgen Findings	Left lung: in its inferior half casts a dense shadow, probably due to presence of fluid. The costophrenic angle is obliterated. Fluoroscopy shows density "2"; limiting level noted on sitting posture
Physical Findings	Right lung normal; right border of heart at right sternum; left border at midclavicle line. Heart sounds normal; left side is bulging, and moves very slightly. Interspaces in left side full; dulness seventh interspace, midaxillary line; normal lung above; fluid below; posterior dulness to seventh dorsal spine; all signs of fluid, and slight Grocco
Aspiration	Negative

Clinical Course				Remarks
Date	Temp.	Pulse	Resp.	
11/14	98.0	88	20	White blood count, 11,120; polymorphonuclears, 70 per cent.; lymphocytes, 30 per cent.
11/22	98.6	84	20	Slight dyspnea on mild exertion; no cough; no expectoration; appetite excellent; gaining in weight; urine normal
11/23	98.6	84	20	Evacuated to Class D. Temperature always normal. Condition excellent. Probably an organized blood clot left lower chest
11/24	98.6	84	20	

getting out of bed or walking a few steps, caused some distress. Cough and expectoration were very slight in cases of sterile hemothorax. Six sterile cases showed an average evening temperature of 99.4 over a period of ten days. This temperature was regular and constant and not variable as in the infected type. The pulse was usually accelerated, but not markedly. Respirations were slightly increased, ranging from 19 to 23, with slightly decreased excursion on the affected side. Gastro-intestinal disturbances were not present in any cases observed.

The physical findings presented by these aseptic cases were thus recorded: As to general appearance, there was slight pallor, but no evidence of pronounced septic absorption. Respiratory excursion on the affected side was changed, and some retraction was present. There was deficient diaphragmatic movement on the affected side. The heart was displaced, the condition depending on the amount of fluid. Palpation showed the limited excursion and noted the decreased

CASE OF HEMOTHORAX

B. E., Pvt. Co. E, 355th Infantry. Date injured, Nov. 4, 1918

Description of Wound	Gunshot wound, left chest, 5 by 3 inches; slight suppuration; shrapnel; nonpenetrating; entrance in postaxillary line in sixth interspace
Immediate Symptoms	Walked about 50 yards and then fainted; marked shortness of breath; some expectoration of blood
Operation	Débridement of external wound; foreign body removed from deep muscles of back
Physical Findings	Heart: apex beat fifth insterspace one half inch inside nipple line; heart sounds normal; respiratory excursion left side, right side normal; left chest area of hyperresonance in fourth and fifth interspaces in anterior axillary line; dulness posteriorly; tactile fremitus decreased; vocal fremitus normal; breath sounds slightly decreased posteriorly
Roentgen Findings	The heart is somewhat enlarged; left lung casts a dense shadow of increased density which may be due to the presence of a thickened pleura or fluid
Aspiration	Not indicated

Clinical Course				Remarks
Date	Temp.	Pulse	Resp.	
11/12	98.6	78	21	White blood count, 11,200; polymorphonuclears, 78 per cent.; lymphocytes, 22 per cent.
11/13	98.6	72	20	
11/14	98.8	70	20	
11/15	98.6	70	20	No cough; no dyspnea; general condition excellent
11/18	98.0	72	20	Wounds healing satisfactorily
11/19	98.4	72	21	Urine normal
11/22	98.6	80	21	Temperature always normal
11/24	98.6	..	..	Evacuated to Class D; condition excellent

tactile fremitus. Percussion revealed flatness, but change in position of the patient did not always result in shifting of the area of dulness, owing probably to the different stages of organization of the blood clot and its comparative fixation in the pleural cavity. Auscultation gave conflicting and misleading information. As a rule, breath and voice sounds were diminished or lost, but sometimes, even in the presence of a large amount of fluid, all the signs of pulmonic consolidation may be present. This may be explained by the very frequent accompanying collapse of the lung, the presence of adhesions, and the varying stages of coagulation of the blood. Leukocyte counts in the aseptic cases averaged 11,000, with 72 per cent. polymorphonuclear leukocytes.

All these cases were subjected to aspiration and studied fluoroscopically, but I wish to include these observations under differential diagnosis between the sterile hemothorax and the infected hemothorax.

Referring again to the twenty-five recorded cases, I wish to recall that three were draining empyemas when they reached the base hosital center. Two cases belonged to Group 1, having no symptoms and comparatively no physical findings. Group 2 comprised the hemothoraces, and of these six were aseptic cases, leaving five for the infected type.

Symptomatically, these infected cases differed thus from the sterile cases: Pain was very severe, whereas in the aseptic type it is negligible. Dyspnea was very marked, the distress being striking even with the patient lying quietly. Cough and expectoration were moderate in amount, usually occurring at night. The temperature usually ranged from 100 to 103, with very irregular excursions, whereas the temperature in the sterile cases was uniform from day to day until normal was reached. The pulse was rapid in all cases, varying from 110 to 120, and was somewhat irregular. Respiration increased, and ranged from 24 to 28. The gastro-intestinal disturbances that usually accompany any septic absorption were present. Among nervous manifestations, sleeplessness was rather characteristic.

The physical findings differentiating the two conditions may be thus described: In the general appearance, pallor was marked; cyanosis of the lips was noticeable; also an anxious expression and rapid loss of weight were all striking. The chest was practically immobile, with no diaphragmatic excursion, while the interspaces were bulging. In one case a definite pulsating upper chest was noted simulating a pulsating area. Heart displacement rapidly increased. In one case the cardiac impulse was best seen in the sixth right interspace beyond the nipple line. Gallop rhythm was also noticed in one case, and this disappeared after the evacuation of 1,700 c.c. of fluid. By palpation, in addition to noting the decreased tactile fremitus and excursion, we also found increased tenderness and hyperesthesia of the skin on the affected side. Percussion gave a cracked note resonance in most cases, and was due to the presence of air generated by the infecting organisms. Auscultation revealed the conditions previously noted in the sterile cases, and in addition we also heard splashing and gurgling characteristic of the mixing of air and fluid. The leukocyte

CASE OF HEMOTHORAX

A. I., Pvt. Co. A, 9th Infantry. Date injured, Nov. 4, 1918

Description of Wound	Machine-gun bullet; wound of entrance, neck, left side, posterior border of sternocleidomastoid muscle; exit, fourth interspace, right midaxillary line
Immediate Symptoms	Severe pain right chest and neck; unable to rise; very slight shortness of breath; slightly blood-tinged sputum for two days after injury
Operation	November 5, aspiration 300 c.c.; blood culture negative
Physical Findings	Heart: apex beat fifth interspace inside nipple line; heart sounds normal; respiratory excursion markedly decreased right chest; diaphragmatic excursion barely perceptible; left chest normal; impaired resonance right upper lobe down to third rib; dulness from fourth rib in nipple line downward and backward; tactile and vocal fremitus present; breath sounds decreased; friction rub over middle and lower lobes in midaxillary line and posteriorly; slight Groeco sign; slight compression of right lung; probably small clot in pleura
Roentgen Findings	Right chest, small metallic fragment on level of sixth rib; costophrenic angle obliterated, probably owing to presence of fluid; fracture second rib posterior aspect near median line
Aspiration	Not indicated

Clinical Course				Remarks
Date	Temp.	Pulse	Resp.	
11/25	96.0	72	20	White blood count, 13,200; polymorphonuclears, 67 per cent.; lymphocytes, 33 per cent. Temperature normal.
11/26	98.6	70	19	
11/27	98.6	72	20	
11/28	98.4	70	19	Severe pain right upper arm, inner side; nerve of Risberg. Very slight dyspnea on exertion. Pain in right upper arm subsiding. Appetite good. Condition good. Gaining in weight.
11/29	98.6	64	19	
12/ 1	98.4	70	18	
12/ 2	98.6	80	20	
12/ 3	98.4	82	20	
12/ 4	98.4	72	19	Evidence of increasing lung expansion. Fluid probably resorbing
12/ 6	98.0	70	20	

count in these infected cases averaged 16,000, with 80 per cent. polymorphonuclears.

This wide variance in symptomatology between the aseptic and the septic cases is not always so striking and conclusive, many of the cases being borderline problems which require closer study and the application of instruments of precision afforded us by the laboratory and the roentgenologist.

TYPES OF FLUID AS SHOWN BY ASPIRATION

A differential diagnosis is never complete without determining the character of the fluid by aspiration.

In all eleven cases in both groups exhibiting evidences of fluid, aspiration was done. Gross examination of the aspirated fluid gives reliable diagnostic information, and three distinct types of fluid were noted.

CASE OF HEMOTHORAX

E. H., Pvt. Co. F, 103d Infantry. Date injured, Oct. 28, 1918

Description of Wound	Shrapnel perforating left upper chest; wound of entrance in second interspace at middle third of left clavicle; exit opposite fourth and fifth dorsal vertebra; sucking wound
Immediate Symptoms	Did not fall to ground; walked 20 feet and sat down on account of weakness and dizziness; had no dyspnea; did not expectorate blood
Operation	Débridement of muscles of back; suture of big muscles to close sucking wound
Roentgen Findings	Evidence of foreign body, 10 by 7 mm., on level of eighth dorsal vertebra, 4 cm. to the right at median line; left chest casts a dense shadow, probably due to hemothorax; heart markedly displaced to right side. Fluoroscopic examination shows pulsating right heart in right axillary region; fluid, large amount left chest
Physical Findings	Left chest bulging; interspaces bulging; no excursion of left chest; no diaphragmatic movement; heart impulse in fifth interspace in right nipple line; right border of heart beyond right nipple line; tactile and vocal fremitus lost, left chest; dulness up to second interspace, anteriorly and posteriorly; no breath or voice sounds audible
Aspirations	November 29, 700 c.c. port-wine colored fluid; smear shows many polymorphonuclears and gram-positive bacilli and diplococci in chains. December 2, 3,000 c.c. chocolate-colored fluid; polymorphonuclears, 40 per cent.; lymphocytes, 60 per cent.

Clinical Course				Remarks
Date	Temp.	Pulse	Resp.	
11/28	99.0			
	100.4	98	24	
11/29	99.0	98	24	White blood count, 10,520; polymorphonuclears, 78 per cent.; lymphocytes, 22 per cent. Dyspnea marked. Sleeplessness. Marked pallor
	101.0	106	26	Loss of weight marked
11/30	100.0	100	26	Operation; rib resection; 400 c.c. chocolate-colored fluid
	101.6	112	28	
11/31	100.0	98	26	
	102.0	102	29	
12/ 2	99.0	100	30	
	103.0	116	28	
12/ 3	99.0	100	26	Heart now approaches right border of sternum
	101.6	114	28	
12/ 4	100.0	98	26	
	102.0	112	30	
12/ 5	99.0	100	28	Dyspnea relieved; draining freely
	101.6	116	28	
12/ 6	98.8	98	24	Condition improving
	101.0	100	26	
12/ 7	98.8	90	24	Appetite good
	99.8	98	24	
12/ 8	99.0	92	24	Gaining in weight
	99.0	94		
12/10	99.0	80	20	Heart in normal position
12/11	98.6	90	20	Discharge lessening
	99.4	96	22	
12/14	98.8	90	20	Evidence of some lung expansion
12/16	98.6	86	20	
	98.8	86	20	
12/18	98.8	84	20	

Type 1.—A clear, thin, pinkish red, slowly coagulating fluid was found in four of the sterile cases. The slow coagulation time and the color of the fluid are probably due to the interference with clotting by the respiratory movements, which throw out the fibrin and cause the serum to retain the red cells. Microscopically, disintegrating red cells and occasional polymorphonuclears were found and no bacteria.

Type 2.—A rather dark, somewhat cloudy red fluid resembling port wine was found. Cellular examination showed many polymorphonuclears, lymphocytes and red cells in various stages of disintegration. This type of fluid was found in two cases in which subsequently drainage was done, so it is to be regarded as extremely suspicious even though the culture is negative.

Type 3.—A thick, chocolate-colored fluid was found in three cases at first aspiration, and also found in the two cases above mentioned on subsequent aspiration. The cellular examination in these cases showed a high percentage of polymorphonuclears, and the culture in every case showed gram-positive bacilli and diplococci.

VALUE OF THE FLUOROSCOPE

In conjunction with aspiration I found the fluoroscope an invaluable aid. Previous to an attempted thoracentesis, every chest was observed fluoroscopically, and information on the following matters was obtained:

1. Absence of respiratory excursion on the affected side.

2. Displacement of the heart.

3. Decreased movement and sometimes complete immobility of the diaphragm, which is probably a protective reflex fixation with a temporary partial paralysis.

4. High riding diaphragmatic dome, which can also be attributed to the foregoing mechanism. This is invaluable information preceding a chest puncture, because it gives warning of the danger of a low puncture or resection with consequent injury to abdominal viscera.

5. Amount of fluid present. With the patient in the recumbent position, the disseminated fluid gives a hazy appearance to the entire side of the chest; but in the sitting posture, a moderate opacity can be defined and a limiting level noted.

6. Presence of shadows. The character of the fluid, of course, cannot be determined; but one case that gave two negative aspirations showed fluoroscopically the presence of a shadow with the density of liver substance. This patient had a chill and rise of tem-

CASE OF HEMOTHORAX

L. D. H., Pvt. Co. G., 322d Infantry. Date injured, Nov. 11, 1918

Description of Wound	Shrapnel wounds, multiple: (1) wound of entrance at spine of right scapula; (2) posterior aspect right shoulder; (3) seventh interspace posterior axillary line; no wounds of exit
Immediate Symptoms	Walked three miles; did not expectorate blood
Operation	November 11, simple dressing; rest. November 25, rib resection eighth posterior axillary line; 1,000 c.c., slightly offensive, thick, chocolate colored
Roentgen Findings	Fracture in the fifth rib; metallic fragment, 7 by 5 mm., just above this region; right costophrenic angle is obliterated, probably owing to fluid; a second metallic fragment, 12 by 5 mm., lies on the level of the second lumbar vertebra
Physical Findings	Heart gallop, rhythm slight, reduplication of second mitral; friction rub in second and third left interspaces, right chest; limited excursion of right chest
Aspiration	November 22, chocolate colored, 25 c.c.; culture shows large gram-positive bacilli and diplococci in chains; smear shows many bacilli and leukocytes

Clinical Course				Remarks
Date	Temp.	Pulse	Resp.	
11/19	101.4	112	24	White blood count, 31,500; polymorphonuclears 80 per cent.; lymphocytes, 20 per cent.
	98.0	120	24	
11/20	100.0	112	26	
	99.8	108	26	
11/21	102.0	100	24	
	98.4	88	24	
11/22	99.0	92	24	Operation: rib resection
	101.6	98	26	
11/23	100.0	92	24	
	101.4	108	27	
11/24	101.0	90	22	
	103.0	114	28	
11/25	100.2	90	22	
	101.4	106	27	
11/26	99.8	90	23	
	101.4	106	27	
11/27	98.6	96	24	Temperature normal; golden-yellow discharge, not bile
	101.9	106	26	
11/28	99.0	96	24	
	100.0	100	24	
11/30	98.8	90	24	
	100.4	99		
11/31	98.0	80	24	
	99.0	99		
12/ 2	99.0	90	22	
		90		
12/ 4	99.0	82	22	
	100.0	90		
12/ 6	98.8	82	22	
	99.8	88		
12/ 8	98.0	86	22	

perature after each chest puncture, and ran a septic course for four days. The only explanation I can offer is readily afforded by the fluoroscope, which revealed a dense shadow that could be interpreted as a firmly organized blood clot. The symptoms were probably due to the liberation of more blood by disturbing the blood clot.

7. Presence of air, which is manifest by the appearance of eddies, whirls and bubbles. Combined with clinical signs of infection, the presence of air gives presumptive evidence of the presence of infection.

8. Localization of foreign body to determine its position with a view to removing it, if accessible.

Roentgenograms were taken in all cases, and are valuable aids in determining abscess formation, lung collapse and other complications, and are also valuable as permanent records.

BASIS FOR DIFFERENTIAL DIAGNOSIS BETWEEN ASEPTIC AND SEPTIC HEMOTHORAX

Differential diagnosis between aseptic and septic hemothorax is based on these findings:

1. The aggravation of all symptoms due to the presence of blood in the pleural cavity.
2. Increase in all the physical findings.
3. Presence of a pneumohemothorax where no air had been previously noted.
4. Gross characteristics of the aspirated fluid, the chocolate-colored fluid being diagnostic of infection.
5. Cellular examination of the aspirated fluid.
6. Positive culture of aspirated fluid.
7. Leukocytosis.

COMPLICATIONS

Two patients were suspected of having abscess of the lung. One patient presenting evidence of only a slight amount of fluid in the costophrenic angle, but with a leukocyte count of 17,000 and evidence of septic absorption, expectorated 500 c.c. of pus in twelve hours and the symptoms subsided, the white count dropping to 9,000 in four days. This patient also showed deep in the thorax a machine-gun bullet which moved up and down with the respiratory movement and laterally synchronously with cardiac action. In the other case, the initial aspiration revealed pure pus, a subsequent one chocolate-colored fluid. Two weeks after rib resection was done, a foul odor was noted in the draining empyema. A culture showed the same organism found on first aspiration. The probable explanation is that it was due to an externally rupturing lung abscess.

TREATMENT

Five of the patients proving to be of the infected type were operated on under local anesthesia, a rib resection being done and two drainage tubes introduced. Subsequent local treatment consisted in maintaining free drainage. In one case that was draining poorly a water pump suction apparatus was used and proved successful. In twenty-four hours 300 c.c. of fluid were collected.

General treatment consisted in giving large quantities of highly nutritious food. No facilities were available for determining nitrogen waste in the discharge. This nitrogen waste can be neutralized by selecting a diet rich in proteins, thereby replacing the lost nitrogen.

The main consideration in treating these cases is the restoration of normal lung function. Much can be accomplished toward this end by stimulating lung expansion through the means of blow-bottles and mild exercises. These facilitate the evacuation of pus, discourage the formation of new adhesions, and help to destroy the old ones. They also enable the collapsed lung to return, at least partially, to its former state of respiratory activity.

SUMMARY

In the present war, gunshot wounds of the chest are frequent and severe, but the advance in thoracic surgery has made possible a comparatively low mortality rate.

2. Hemothorax is the most common complication of the chest injuries.

3. An early differential diagnosis between sterile and infected hemothorax is essential.

4. A practically absolute diagnostic evidence is afforded by the gross, microscopic and cultural characteristics of the aspirated fluid.

5. Fluoroscopic examination in all cases is important.

6. Prompt drainage of these infected hemothoraces should be followed by an after-treatment that encourages the restoration of respiratory activity on the affected side.

EMPYEMA AT CAMP MILLS, L. I.

WITH SPECIAL REFERENCE TO THE USE OF THE PHILIPS EMPYEMA APPARATUS

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WITH COMMENT ON THE APPARATUS BY

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The successful treatment of empyema depends on the recognition of the basic pathology of the condition. In the treatment of a collection of pus elsewhere in the body, simple incision and the establishment and maintenance of adequate drainage suffices in most cases to effect a cure. But in the chest cavity a different condition exists. When the pleural sac is opened for the drainage of pus, the normal negative pressure is immediately changed to atmospheric pressure (15 pounds to the square inch), the elastic lung collapses, the respiratory and circulatory embarrassment of the patient is increased instead of lessened, and a condition results which is the very thing to be avoided. To put it in the simplest form, it is adding a complication instead of ameliorating or aiding the condition. The indications for the most successful treatment of this condition are obvious: the establishment of adequate drainage coincident with the exclusion of atmospheric pressure.

In a previous preliminary report,[1] the efficacy of a new method for the treatment of empyema, with detailed histories of three cases so treated, was indicated. A brief summary of this report, including a short description of the apparatus, forms an appropriate introduction to this paper.

1. Philips, H. B.: New Method of Continuous Drainage for Empyema, Surg., Gynec. & Obst. **24**: 236 (Feb.) 1917.

The apparatus consists of a special cannula, a bottle, a negative pressure manometer, a suction pump, and connecting rubber tubing. The cannula is of special design so as to be used for a trocar cannula for the thoracotomy, and being also nonobstructible, it remains in the chest wall until the empyema sac has been obliterated. A rubber suction cup surrounds the cannula, and permits of an absolutely air-tight connection with the pleural sac. This makes it possible to empty the pleural sac with nonobstructible drainage, maintaining a continuous negative pressure of from 30 to 60 mm. of mercury until the empyema sac has been obliterated and firm adhesions have formed between the visceral and parietal pleurae, when the apparatus may be removed.

The advantages anticipated and found with this method of treatment were numerous. The control over the negative pressure throughout the treatment assured against primary collapse of the lung and its coincident grave dangers. There was not the slightest suggestion of respiratory embarrassment. A means was afforded for keeping the lung expanded automatically and continuously, thus promoting early adhesions between the pleurae, and preventing the formation of a dead space. The nonobstructible cannula, which is a trocar cannula, convertible into a cannula with a hidden curet, assured ample drainage and obviated rib resection and other operative procedures. The original dressing was the only one, so that secondary infection from extraneous sources was excluded. Moreover, the mussy, obnoxious dressings with which we are all familiar were done away with, all the pus accumulating in the bottles (in one case 11 liters [quarts]). The duration of the treatment was very materially reduced and a method afforded which was sanitary, pleasing and simple.

Having thus described the features of the apparatus and what it accomplished in the first short series of cases, we shall further refer to it in describing the complete course of treatments followed in a series of about fifty cases that occurred at this post during the influenza epidemic. Mention should be made of the fact that but one apparatus was available during the height of the epidemic, and it was only at the end of the series that enough apparatus were on hand to meet the demand, so that it was necessary to resort to varied treatments, which, however, were all consistently conservative.

The plan of treatment that was followed before the apparatus arrived, and while there was but one in use, was to make repeated aspirations with aseptic technic, trying as far as was possible to exclude atmospheric air from the pleural sac during the puncture. This was repeated from time to time in all cases advisable. It was found, however, that in several of the cases the pus was so thick as to make this procedure impossible. These cases were then submitted to either intercostal drainage or rib-resection operations. In the absence of Philips' apparatus, cannulas, first of rubber and then of metal, were used, in an attempt to make suction through intercostal drainage and to exclude atmospheric pressure. A special adhesive paste, referred to later, was used to make the cannula air tight in the chest wall. The cannula was then connected to an air-tight stoppered bottle, and in this way it was attempted to maintain a continuous negative pressure while draining the pleura. Owing, however, either to the obstruction of the improvised cannulas or to leakage, this method was soon abandoned, and thereafter all cases which did not improve after aspirations were submitted to rib-resection operations for drainage. Finally, with the arrival of the apparatus, all remaining cases were treated solely with them, so that an unusually good opportunity is offered for a comparative study of these methods, checked up by very frequent roentgenographic examinations. It should be mentioned that neutral solution of chlorinated soda (Dakin's solution) was used as a routine for repeated and regular irrigations of those cases treated by intercostal and rib-resection drainage.

For a clear consideration of these cases, it is necessary to divide them into the following groups for study:

1. Those treated by simple repeated aspirations.
2. Those treated by intercostal drainage.
3. Those treated by rib-resection drainage.
4. Those treated with the Philips apparatus.

1. CASES TREATED BY SIMPLE REPEATED ASPIRATIONS

Simple repeated aspirations were employed as a matter of routine when consistent with the condition of the patient. The aspirations were done at three to seven day intervals, whenever the condition of the patient indicated this procedure. In the great majority of cases this method failed, and more radical treatment had to be instituted early. Of a group of seventeen cases, three terminated successfully without any treatment but repeated aspirations. In most cases, however, early symptoms of aggravated sepsis or the appearance of a pneumothorax, although persistent care was taken to prevent this complication, indicated better drainage methods. Of the three cured cases, the exudate in one was serous and in the other two it was purulent. Two of the cases terminated fatally. There was no characteristic bacteriology that permits of any inference as to the cause of the fatality; however, both patients were extremely toxic.

One must keep in mind that cures with this method of treatment are the exception and not the rule, and that the personal equation of the patient, and the exceptional pathology of the condition, make this unusual termination of the condition possible. In this group of cases it was found impossible to exclude air from the pleural sac uniformly. Even when the aspirations were thought to have been accomplished without the entrance of air into the pleura, roentgenoscopy would disclose a pneumothorax in the greater number of cases. In many cases this method was a failure from the very start, because of the thick character of the pus, which plugged the needle or cannula immediately after its insertion. The Potain aspirator was used, as were also small trocar cannulas, which were connected tightly to bottles and suction pumps in attempts to aspirate the pus and at the same time to prevent pneumothoraces. Owing to either plugging of the drainage or to leaking, these methods were soon abandoned.

Our experience has led us to feel that the contraindications for repeated aspirations are:

1. The character of the exudate such that it obstructs the cannula or needle.
2. Absence of improvement following this treatment.
3. The appearance of a complicating pneumothorax, following aspirations.
4. Severe toxemia of the patient.

2. CASES TREATED BY INTERCOSTAL DRAINAGE

Group 2 consists of ten cases. The discharging sinus in one of these patients, who had a ruptured bronchus on the same side with the empyema, after drainage for forty-six days, closed completely. Roentgenoscopy subsequently revealed a complete pneumothorax, which we are inclined to believe was caused by a flap valve on the ruptured bronchus. This patient will subsequently be treated by the apparatus, to expand the collapsed lung after sufficient time has elapsed for the ruptured lung to heal. Two of this group were healed completely in forty-three and forty-five days, respectively. Two patients were transferred to other hospitals while draining twenty-five and thirty-five days, respectively, and were lost track of.

There was a mortality of 30 per cent. in this group, none of the cases being complicated by an active pneumonia. At the time of the writing of this report, two of the cases are each draining over seventy days, and according to the last roentgenographic reports, both show small pneumothoraces in the peripheral parts of the chest. The patient mentioned previously with the large pneumothorax, in spite of this condition, outwardly appears fairly well. As mentioned previously, all attempts to secure air-tight intercostal drainage with improvised cannulas won absolutely no success, notwithstanding our very persistent efforts and the use of the special adhesive paste referred to later. Either plugging of the cannulas necessitating their removal, and cleansing or leakage about them producing a pneumothorax, or constriction of the tube drainage of the ribs caused this method to be abandoned and replaced by rib resection, which certainly affords better drainage without any additional disadvantages. These cases all showed the disadvantages of open pneumothorax in addition to those of inadequate drainage.

The following history of one of the cases of this group may be considered an average one for this type of treatment:

Case 1.—C. B., who entered the hospital with a diagnosis of influenza, subsequently developed a right sided pneumonia, and empyema, pus being found on aspiration, Nov. 2, 1918. A metal cannula inserted intercostally was attached to a rubber tube leading to a bottle, in which an attempt was made to maintain a negative pressure with a suction pump attachment. The method proved ineffectual, because of plugging of the cannula. A stiff rubber tube was therefore substituted for simple drainage purposes. Profuse purulent drainage persisted for five weeks, and at the present time is moderate.

The patient's present condition is fairly satisfactory, and he is up and about each day. Roentgenoscopy reveals partial collapse of the right lung, with considerable pneumothorax.

Summarizing this group of cases, there were two complete cures effected in about six weeks' time. There was a mortality of 30 per cent., none of the cases being complicated by coincident active pneumonia. Pneumothorax could not be excluded by this method of treatment, and to all appearances the drainage was not adequate.

3. CASES TREATED BY RIB-RESECTION DRAINAGE

Twelve cases contribute to Group 3. For clear consideration, these cases are divided into those treated by repeated preliminary aspirations and those in which the operation was the initial treatment. In the former group there were seven cases with one mortality; in the latter group there were two cases completely cured in four weeks' time. The one fatality in this group treated by rib resection was not complicated by a coincident pneumonia. The patient had been aspirated six times during a period of twenty-one days, and more than 4 liters of pus removed in this way, before the operation was resorted to. This patient apparently died of shock and exhaustion from the open pneumothorax, complicating a severe toxic condition from the chronic empyema. The two patients quoted as cured stopped draining after four weeks and were returned to duty. All the other cases have been draining from nine to eleven weeks each, and roentgenographic examinations reveal pneumothoraces of varying sizes. The patients who had been aspirated repeatedly before the operation appear to stand the operation more easily and convalesce more smoothly than the cases of the other group. This accords with the recommendation of the Empyema Commission of the U. S. Army, in its preliminary report, notwithstanding the one fatality of the group. Periodic examinations of all these cases with the roentgen ray show invariably large pneumothoraces after the operations, which have gradually diminished in size. In all these cases, as in those treated by intercostal drainage, there were daily irrigations with Dakin's solution.

Two of the cases of this group were atypical and deserve separate comment. The first, which was one in which all the cardinal signs of fluid were present and the roentgenogram showed a very dense shadow on the entire left side, with displacement of the heart to the right, on operation showed a serosanguineous condition of the pleura. This patient became secondarily infected and is still draining. The second patient was operated on while suffering from a pneumonia on the opposite side. His condition was very low after the operation, but he gradually improved, and now is draining moderate amounts of pus daily.

The impressions from this group of cases make one feel that the postponement of the operations gives the patient an easier time, with apparent less risk at the operation. However, it appears to be an advantage paid for in convalescent time, for undoubtedly the delay permits the formation of adhesions in a partially collapsed lung, which enhances the chronicity of the condition.

The following is the history of an average case of this group:

Case 2.—F. L., who entered the hospital, Oct. 19, 1918, with a diagnosis of influenza, seven days later developed a bronchopneumonia on the left side. Five days later a pleural effusion was discovered on the left side, and 1,500 c.c. of straw-colored serous fluid were aspirated. As the patient's general condition improved gradually, no radical treatment was resorted to until ten days later, when 300 c.c. of thick, yellow pus were aspirated. A resection of the eighth rib in the posterior axillary line then followed, with the evacuation of 1,100 c.c. of pus. A profuse, purulent discharge persisted for about three weeks, and then gradually diminished, the wound healing completely four weeks after rib resection. The roentgen report of the present condition of the patient is: "thickened left pleura with pneumothorax; lung collapsed to two-thirds normal size." The patient is now up and about and feeling fine. If the pneumothorax does not show a tendency to become smaller very soon, a Philips apparatus will be applied to expand the lung and complete the cure.

4. CASES TREATED WITH THE PHILIPS APPARATUS

Group 4 comprises sixteen cases. Two complete cures were effected, one in ten days and one in twenty-one days. Two apparent cures (complete expansion of the lung with stoppage of drainage) were accomplished

in two more cases, in twenty and ten days, respectively; however, the sinuses were permitted to close too soon, and a reaccumulation of pus occurred which necessitated the reapplication of the apparatus. There were seven cases of coincident complicating pneumonia, either on the same or on the opposite side, with the empyema, and one case of pulmonary abscess on the opposite side. Of this group, five of the pneumonia patients died. These patients drained from 1 to 5 liters. They were all very critically ill, even hopeless as to the outlook at the start of the treatment, and the apparatus apparently prolonged their lives several days, in one case as long as a week. In each case the improvement seemed to be phenomenal, and for the time seemed almost to assure favorable prognosis. It must be conceded that the gradual withdrawal of huge amounts of pus from these patients, giving them more breathing lung tissue, and prolonging their lives, in one case a full week, was anything but harmful, and on the contrary decidedly beneficial. One of these cases which terminated fatally is so instructive, and substantiates the foregoing statements so conclusively, that the history is given:

CASE 3.—K. B. G., admitted to the empyema ward with an empyema on the right, and a pneumonia on the left side, was shown by roentgenoscopy to have a pneumothorax, with almost complete collapse of the right lung, and a pneumonia on the left side. Before the apparatus was applied, the patient was very cyanotic, and his breathing very labored and superficial. To quote the exact words of the patient's progress chart, "On application of the apparatus, a remarkable change in the patient's condition set in; cyanosis and dyspnea disappeared almost completely, and breathing became much freer and deeper." However, as the pneumonia became worse, his condition gradually became worse, in spite of the increased aeration of the lung that the patient had the advantage of. A roentgenogram taken twenty-four hours before the patient's death (one week after the first examination) showed the previously collapsed lung expanded to four-fifths the normal size; the pneumonia, however, was much more extensive than previously.

At this time the majority of cases have been treated too short a time to give final termination of the condition and the date. However, by coordinating the condition of the drainage with the last roentgenographic reports, we secure sufficiently accurate data for the analysis of the series. There are five cases in which the apparatus has been applied for less than a week each, the sinuses are still draining, and roentgenographic reports show completely expanded lungs. There are only two patients of the series who do not show completely expanded lungs. The first, having a complicating lung abscess, was delirious, and the apparatus was loosened after the eighth day by his rolling in bed. However, certainly no disaster resulted from this loosening, for by that time most of the lung was adherent, and only a small pneumothorax in the lower and outer portion of the pleural cavity was present according to the roentgenographic reports. In the second case, complicated by pneumonia, the patient, also restless, loosened the cannula after the fifth day, and the apparatus was reapplied, and now on the twelfth day shows a dense peripheral linear shadow about 4 cm. wide.

In none of these cases have the symptoms of open pneumothorax been observed. There has also been a complete absence of any signs of shock, or respiratory embarrassment after the application of the apparatus. Leakage occurred in but two of these cases, in which delirium of the patients was the cause, and this did not occur until after five days of continuous expansion of the lung, in the first case, and eight days in the second case, with no worse results than just described.

Case 4 may be considered an average one treated with the apparatus:

CASE 4.—A. C. entered the hospital, Oct. 16, 1918, with a diagnosis of influenza, and then developed a right sided lobar pneumonia and empyema. Thoracentesis, October 20, revealed a cloudy, yellow fluid. The apparatus was applied in the seventh intercostal space, midaxillary line, with immediate respiratory relief. A roentgenogram twenty-four hours later showed the lung to be completely expanded. The apparatus was left on for fifteen days, draining 9 liters of a purulent fluid into the bottle. A small rubber drainage tube was inserted into the draining sinus after the removal of the apparatus. Drainage diminished progressively, and the wound was firmly healed ten days after the removal of the apparatus. There was no noticeable difference in the lung excursion of the two sides, and the patient was discharged to duty, in good health, forty-one days after the application of the apparatus.

Summarizing the most prominent facts deducible from this series treated with the apparatus enables us to state that:

1. Complete expansion of the lung was secured in an average of three days after the application of the apparatus.

2. The mortality of straightforward cases of empyema, that is, those not complicated by coincident active pneumonia, has been nil.

3. A large pneumothorax is exceedingly improbable (not encountered in our experience); and the open pneumothorax and all its dangers, so thoroughly and carefully considered and cautioned against by Graham and Bell,[2] is impossible after the apparatus has been applied only a few days, for by this time the lung has been very considerably expanded, and a good part of it has become adherent to the chest wall in its expanded condition.

4. The duration of empyema, as such, is very materially shortened.

ADVANTAGES SECURED BY THE USE OF THE APPARATUS

1. Atmospheric pressure is excluded. From start to finish of the treatment, a continuous negative pressure of from 30 to 60 mm. of mercury is maintained in the pleural sac. Atmospheric pressure is absolutely excluded from the start, and there has never been a suggestion of syncope or respiratory or cardiac embarrassment in any of the cases treated, when the drainage was permitted to start. The reason is that drainage is not started until the empyema sac has been connected to a bottle and a negative pressure of 40 mm. of mercury established therein. In this way the method is as ideal as treating an empyema case in a negative pressure chamber, the same as is indicated in other chest operations in which the open pleura is entered, and this method is decidedly much more handy. The lung is thus kept expanded, and very gradually returns to its normal position and degree of expansion. Roentgenograms taken twenty-four hours after the apparatus has been applied show completely or very nearly completely expanded lungs, which stay in this condition, as checked up by frequent roentgenographic examinations, until adhesions form and the

2. Graham, E. A., and Bell, R. D.: Am. J. M. Sc. **156**: 839 (Dec.) 1918.

empyema sac is completely obliterated. A constant feature is the remarkable ease and comfort of the patient when the drainage is started, and during the course of the application of the apparatus. This subjective well being is decidedly conspicuous by its absence in other methods of drainage. An extremely unusual subjective and objective improvement in the condition of the patient is invariably present. Cyanosis and dyspnea disappear almost from the start, and do not return. This has been nothing short of phenomenal in cases of pyopneumothorax, when it appears to pull the patient from a yawning grave within several minutes, whereas other methods of treatment aggravate the symptoms and condition, and contribute to the mortality. Checking up these cases very closely with roentgenograms has shown that the apparatus gradually expands the lung to its full capacity, and keeps it fully expanded until adhesions between the pleurae are firm and the apparatus can be removed and the cannula tract drained.

2. The necessity for operation is done away with entirely. The special cannula is constructed with a special device which enables the operator to use it first as a trocar cannula to do the thoracotomy through an intercostal space. The cannula stays in situ in the chest wall during the entire treatment, and does not have to be removed if it should become obstructed. By a slight manipulation, the original trocar blade which projected from the cannula can be changed to a curet, so that the operator is able to cleanse the cannula without removing it from the chest wall. This gives a practically nonobstructible drainage through an intercostal space, and does away with the necessity for rib resections. The insertion through the chest wall can be done absolutely painlessly, with the use of a local anesthetic. A general anesthetic is unnecessary. The apparatus has been applied repeatedly without the slightest pain or apprehension on the part of the patient.

3. Secondary infection is excluded. The cannula is fastened to the chest wall by a suction cup device, adhesive straps and gauze, with a liberal application in layers of a special adhesive paste made of common glue, 50 parts; water, 50; thymol, 2; glycerin, 2, and calcium chlorid, 2. This makes an air tight and permanent dressing which will stay absolutely clean and air tight as long as two weeks. Consequently there is no portal of infection from extraneous sources. Numerous cases have been checked up bacteriologically, and secondary infection has been found to be excluded. The value of this feature cannot be overestimated, for it has long been agreed that one of the principal factors contributing to the high mortality of empyema is secondary infection.

4. The duration both of the treatment and of the condition is very materially shortened. The exclusion of atmospheric pressure and of secondary infection precludes the formation of a large dead space, secreting endless pus. It is this condition that all surgeons and practitioners dread, for with its establishment a chronic, long drawn out condition is guaranteed. This method, applied as early as possible, can justifiably be considered an absolute prophylactic to a chronic long standing empyema, which in the end will necessitate a very radical rib-resection operation to obliterate the dead space. The average duration of the actual empyema has been less than ten days after the application of the apparatus, and when it is removed, it will leave a completely or very nearly completely expanded and adherent lung.

5. A functionating lung is obtained from the very start. More accurately as checked up by the roentgen ray, a completely or very nearly completely expanded lung is present and functionating within a few hours after the application of the apparatus, and this can be demonstrated clinically and by roentgenoscopy any time thereafter. This feature is certainly conspicuous by its absence in other methods of treatment which permit the entrance of air into the pleural space, even if but temporarily. Needless to say, the additional advantages to the patient of a functionating lung, when the opposite side has been incapacitated by a pneumonia, is tremendous, and a few patients were unquestionably saved and others very materially improved by the rapid restoration of a functionating lung. This is confirmed in a way by the experience of the roentgenologist. In making the long exposures necessary with the bedside roentgen apparatus (no intensifying screens being available), just prior to the application of the apparatus, it was necessary to make three interrupted exposures to get a negative. Roentgenograms made within three hours after the apparatus was applied were taken very easily, the patient holding his breath the necessary nine or ten seconds without any interruption.

6. A clean, sanitary, pleasing, economical and simple method is secured of getting rid of the pus. During the entire application of the apparatus, the dressings remain as perfectly clean as when originally applied. The adhesive paste interspersed between the layers of the dressings makes an ideal air-tight dressing which does not leak. The usual mussy, obnoxious dressings that are always associated with empyema cases are entirely done away with, all the pus being accumulated in the bottle, which itself is sealed air-tight. The foul odors, pussy dressings, pain and discomfort to the patient, not to dwell too forcibly on the objections of drainage operations, with the squirting and sputtering of pus all over the operating room, the acute torture and the alarm of the patient when his pleural sac is opened—these features, without exception, are all relegated to the past. One visitor, after looking over an array of six cases being treated with the apparatus, after inspecting the perfectly clean dressings (some of which had been on over a week), and the bottles at the bedsides filled or partially filled with pus, noting the ease and comfort of the patients and the absence of odors, remarked that the place looked like anything but an empyema ward. It is undoubtedly of interest to note that as much as 10 liters of pus have accumulated in the bottles of individual cases, still preserving the physical appearance just described.

Attention should be called to the fact that the apparatus can be used in ordinary serous pleural effusions, and has been used with great success. The danger of secondary infection is minimal, and the means afforded of expanding a chronically compressed and collapsed lung, by the apparatus, cannot be overlooked.

GENERAL CONCLUSIONS

1. Repeated aspiration as a curative procedure is not feasible in most cases. As a palliative procedure it permits of the formation of a pneumothorax in most cases, and its value is therefore questionable. Severe toxemia is a contraindication to repeated aspiration treatment.

2. Intercostal drainage is impossible, in our experience, without the production of a complicating pneumothorax; and as it possesses the disadvantages without the advantages afforded by rib resection, we feel that the latter is the operation of choice if the apparatus is not available.

3. Shock and cardiac and respiratory embarrassment are minimized with the use of the apparatus.

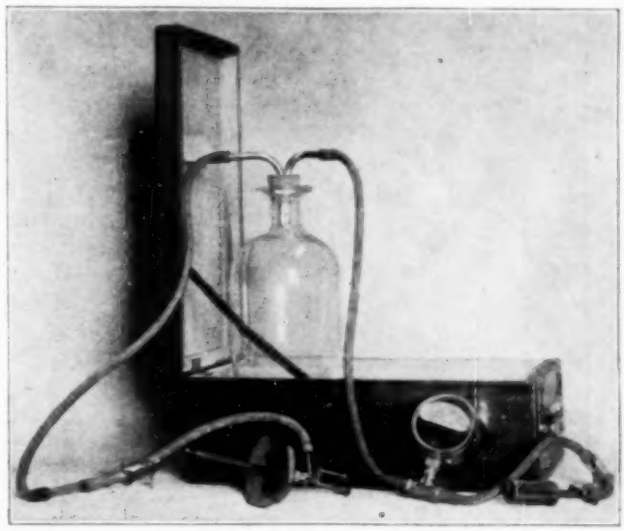
4. The apparatus affords the most desirable method of treatment in any stage of the empyema because: (*a*) There is exclusion of atmospheric pressure; (*b*) secondary infection is excluded; (*c*) the necessity for operation is done away with entirely; (*d*) the duration both of the condition and the treatment are very materially shortened, and (*e*) it is a clean, simple, sanitary and economical method of getting rid of the pus.

5. Open pneumothorax is absolutely prevented by the use of the apparatus.

COMMENT ON PHILIPS' APPARATUS FOR THE TREATMENT OF EMPYEMA, BY DR. MIX

In civil practice the treatment of empyema has always been in the main simple. Intractable cases were occasionally encountered which demanded special measures, but as a rule case after case yielded to the simple operation of rib resection. The stubborn cases were usually passed along to some surgeon who instituted special measures for continuous drainage, and ultimately most patients recovered.

In army practice, the treatment of empyema has been almost futile. *Streptococcus hemolyticus* seemed to be the active germ in most cases, and its virulence in some cantonments has been prodigious. Methods in vogue in civil practice were totally inadequate. At first, camp surgeons resected ribs as soon as an internist discovered pus, and the patient died. Then the internist began to hold back his cases from the surgeons because he found that repeated aspirations gave better results. Throughout all the struggle to succeed against empyema ravages, every one knew that the principle to be sought after was a continuous drainage, with a negative pressure in the pleural cavity.



Completely assembled apparatus with curet projecting from cannula orifice.

TABLE 1.—RELATIVE EFFECTIVENESS OF THREE METHODS OF TREATMENT

	Intercostal Drainage	Rib-Resection Drainage	Philips' Apparatus
Days to produce a completely expanded lung..	50 days	40 days	3 days
Average day of complete stoppage of drainage in two cured cases of each group	42d day	28th day	15th day
Percentage mortality encountered in cases of straightforward empyema (no coincident active pneumonia being present)	30	9	0

At the base hospital at Camp Mills, our empyema experience was similar to that elsewhere. The cases in the spring of 1918 showed a mortality of 55.5 per cent., which was neither good nor bad as compared with statistics from other cantonments. All of these cases were treated by the surgical department, after the diagnosis had been made in the medical department. Those that recovered drained for sixty days in some instances, some patients being discharged in July who had entered in April.

TABLE 2.—EARLY INCIDENCE OF EMPYEMA

Date	Influenza Patients Admitted	Patients Developing Pneumonia	Patients Developing Empyema
Sept. 14	5	1	0
Sept. 15	6	0	0
Sept. 16	3	1	0
Sept. 17	9	2	0
Sept. 18	8	1	0
Sept. 19	20	2	0
Sept. 20	67	3	2

When the first cases of influenza appeared, Sept. 14, 1918, we did not look for much empyema as a complication of the disease, and it was some time before our first case appeared. Our early incidence of influenza was interesting, and is briefly presented in Table 2.

The rapid rise in cases is shown, also the early development of pneumonia and the later development of empyema. Of the ten cases of pneumonia subsequently developing among those admitted during the first week of the epidemic, in two later, during October, empyema developed. Since three of the first ten pneumonia patients died, really the incidence of empyema was two in seven cases.

With admissions rapidly rising, so that we had 3,000 cases under treatment by the middle of October, it was not strange that many later showed signs of empyema. Lieutenant Philips told me of his apparatus, the mechanical details of which were simple, the main thing being a cannula with a sliding curet, and a sliding trocar within it. One or the other could be slipped down at will, the trocar for purposes of inserting the cannula, and the curet for slipping up and down to clean the cannula whenever it happened to be clogged with thick pus. The ideal thing about the apparatus, however, was that it was applied by a glue preparation in an airtight condition to the chest wall and held rigidly in place for days while connected with a Potain aspirator bottle in which a measured negative pressure could be maintained. If the pleural cavity could be thus sucked continuously dry of pus by an apparatus preventing the admission of air into the pleural cavity, so that the lung could be continuously expanded, certainly the ideal treatment would be attained. This the apparatus does. As the pus is

sucked out 1 c.c. at a time, the lung expands that 1 c.c., and thus in time the lung is expanded completely.

Those conversant with empyema know that pneumothorax has hitherto been the invariable sequel of every method of treatment except that of occasional and very careful aspiration, such as is practiced in the removal of ordinary pleural effusions. And, indeed, even in many cases of simple and repeated aspiration, the air gets in. Philips' apparatus prevents the development of pneumothorax by way of the external thoracic wall. This is its great advantage.

We now have sixteen such apparatus at our disposal, and our statistics in empyema are improving. In the preceding, Lieutenants Philips and Langmann have set forth the material advantages of this treatment. I might emphasize the principal features: It expands the lungs. It prevents the formation of a pneumothorax by the admission into the pleural cavity of air from without. It provides continuous drainage every hour, minute and second, day and night. It lessens mortality and shortens convalescence. It prevents secondary infection. It is clean, comfortable and sanitary. All the pus is in a bottle, where it can only be seen, not smelled, and where it is harmless. It makes unnecessary an operation (rib resection with the sudden gushing out of a quart or more of pus all over the operating table, dressings and floor) attended with a high degree of shock. It helps to prevent toxic absorption. It leads to very early functioning of an otherwise crowded and crumpled lung.

Too much cannot be expected of the apparatus, but if it merely lessens the mortality of empyema, it is valuable. It cannot prevent the formation of a pneumothorax from within, of course. If, as not infrequently happens, air leaks into the pleural cavity from a bronchus, the apparatus can do no good. It is found wanting, because it is then not possible to exert a negative pressure in such a thoracic cavity. As soon as the apparatus is applied to such a chest, it will suck air through lung bronchus and pleural cavity, as soon as any attempt to make negative pressure is made. But the apparatus has already shown me that most of the pneumothoraces found in empyema are made by treatment and not by ruptured bronchi. Hence not many such cases will be found where the apparatus cannot be applied.

Furthermore, the apparatus cannot prevent the intoxication of the patient by absorption. Some cases of *Streptococcus hemolyticus* infection rapidly become so extremely septic that, before drainage can be instituted, the patients have already absorbed a lethal dose of toxin. It is a mistake to conclude that all patients can be cured by immediate and continuous drainage. Philips' apparatus cannot keep these patients from dying.

For all other cases, however, except these two groups of pneumothorax from within and of extreme sepsis, the apparatus will not be found wanting. It will save many patients who might otherwise die. If it can reduce mortality from empyema by only a few per cent., it is well worth while.

1945 Seventh Avenue.

SEPTIC ARTHRITIS OF THE KNEE ACCOMPANYING FRACTURE OF THE PATELLA

CURE OF A CASE BY IRRIGATION OF JOINT AND STAINING WITH GENTIAN VIOLET

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Since the publication of an article on the "Treatment of Acute Infections of the Joint by Lavage and Direct Medication,"[1] an opportunity has occurred in my service at the New Haven Hospital to make observations, which have amounted to a crucial experiment on a human being, as to the value of this method of treatment. The case was one of pyogenic arthritis, due to *Staphylococcus aureus*, and occurring as a complication of a compound comminuted fracture of the patella. As the boy was admitted to the hospital twenty days after his injury, at which time a purulent arthritis was well developed, and as there was in addition to the comminuted fracture of the patella a large gash below the knee-cap, which on admission had developed into an infected granulating wound, the test of this method of treatment could hardly have been more severe. The result, however, was a complete cure of the septic arthritis; and we were subsequently able to suture the fractured patella—which healed by first intention as though no infection had previously been present—and finally to give the patient a normal leg.

Fig. 1.—Condition of knee after cure of septic arthritis by means of lavage and staining with gentian violet; possibility of complete passive extension without pain; inability to lift foot from the bed (absence of active extension) on account of fracture of the patella.

Fig. 2.—Degree of flexion present after cure of septic arthritis.

Fig. 3.—Comminuted fracture of patella.

The case was controlled by bacteriologic examinations throughout. The material aspirated from the joint on admission was a bloody pus, and smears from this pus contained a gram-positive coccus. *Staphylococcus aureus* grew out in pure culture. The occur-

1. Churchman, J. W.: Treatment of Acute Infections of the Joint by Lavage and Direct Medication, J. A. M. A. **70**: 1047 (April 13) 1918.

rence of German measles after the first lavage and staining made it impossible to make subsequent bacteriologic observations until about a month had elapsed. At this time fluid was aspirated from the knee and was proved to be sterile, no organisms being found in the smear or on the plants. Meanwhile the incised wound below the patella was gradually cleaning up, and this was allowed to heal and become completely covered with epithelium before operative interference for the fracture of the patella could be thought of. For three days following this aspiration, the incised wound now having been closed for a week, the skin was prepared with benzin and iodin, and a week after aspiration, the joint was opened. It was found to be perfectly normal in appearance and contained the usual glairy synovial fluid, with the slightest possible bloody tinge. Both smears and culture from this fluid were negative. The comminuted fracture of the patella was treated by suturing the periosteal fascia. The knee was put up in a plaster cast and it healed in the usual way.

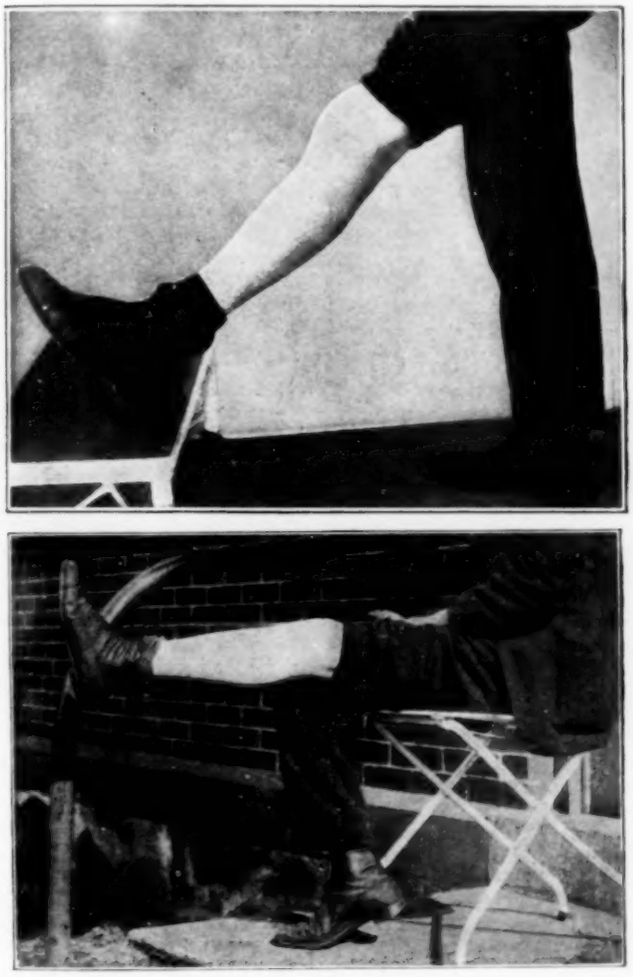

Fig. 4.—Result after suture of patella: active extension normal.

We thus had a septic arthritis, due to *Staphylococcus aureus*, cured by lavage and staining with gentian violet; and a granulating wound allowed to heal in the usual fashion. By means of bacteriologic studies we were able to demonstrate that the lavage and staining had sterilized the joint, and when the healing of the skin wound permitted, we felt safe in opening the joint and suturing the fracture. The bacteriologic studies of the fluid removed at the operation confirmed our opinion that the joint had been sterilized; and this opinion received final confirmation in the absolutely clean healing of the sutured patella and of the skin which followed.

In Figures 1 and 2 the condition of the knee is shown after the septic arthritis had been cured and the skin wound allowed to heal, but before the fractured patella had been sutured. It is to be noticed that at this time, though of course extension of the hanging lower leg was impossible on account of the fracture, the motions of the joint were entirely free from pain even in acute flexion, as shown in Figure 2.

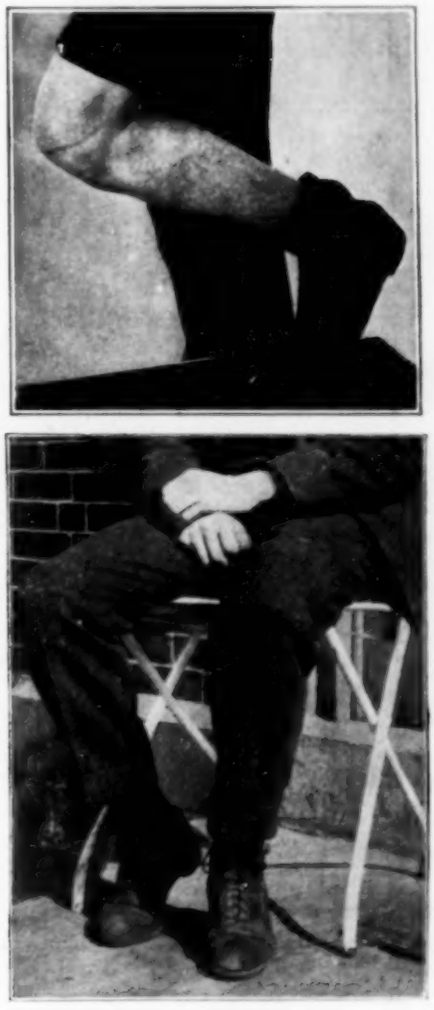

Fig. 5.—Result after suture of patella: active flexion practically normal.

The comminution of the patella is shown in Figure 3, and in Figures 4 and 5 the result after suturing the patella. Extension is perfectly normal. Flexion is present to almost its normal degree.

In this patient I have had an opportunity for the first time to see the joint surface in a joint which has been the site of septic arthritis, treated in the manner recently suggested by me. My previous bacteriologic examinations had justified the supposition that by the method of lavage and staining a joint could be sterilized; and the clinical results already reported[1] made it likely that the joint surface, after an infection, when treated by lavage and staining, returns to normal condition. In this patient I was able by actual

observation of the joint surface to show that both suppositions are correct. The fluid in this case at the time of operation on the patella was sterile and practically normal in appearance, and the joint surface was entirely normal so far as could be judged by the naked eye.

The temperature chart in this case was so influenced by the occurrence of German measles that it was difficult to draw any conclusions from it. The temperature, however, on admission was 102, and even before the onset of the German measles had reached 103 and was irregular in character. After the lavage and irrigation it fell to 99, and the signs of septic arthritis disappeared; it rose again with the onset of German measles, but was normal at the time of operation. After the operation, at which the patella was sutured, there was never any rise of temperature, the highest point reached being 99.5 on the second day. The temperature fell to normal on the third day, and remained there until discharge from the hospital. The patient is now walking about as he did before the injury.

Clinical Notes, Suggestions, and New Instruments

A REVERSIBLE AND ADJUSTABLE ELBOW SPLINT

WILLIS W. LASHER, M.D., NEW YORK
Lieutenant, M. C., U. S. Army

The accompanying illustrations sufficiently well illustrate this simple brace, so that there remains only a necessity for enumerating some of the advantages of this appliance over the more commonly used types of elbow braces. The same principle may be used in treating injuries in and about the knee joint when forcible flexion or extension is desired. It is to be remembered, however, that splinting is to be used only in conjunction with other means to obtain a result in long standing conditions.

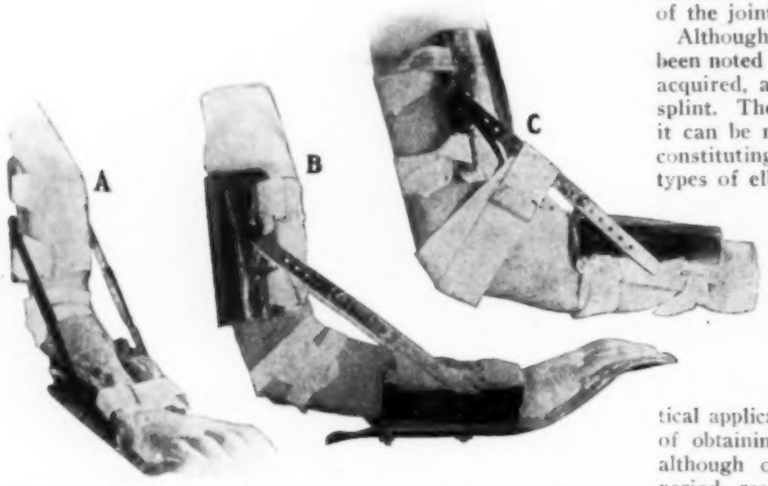

Fig. 1.—Reversible and adjustable elbow splint: *a*, anterior view; *b*, lateral view; *c*, splint applied to the flexor surface of the joint.

Those cases requiring the dressing of wounds about the elbow may be more easily treated with this brace, because no part of the appliance comes in close proximity to this region. Most other splints interfere more or less in the dressing of these wounds, because they depend for their support on a structure placed along the posterior surface of the joint. None of the usual types can be applied to the anterior surfaces of the arm and forearm.

In chronic arthritic conditions or in cases in which limitation of motion has occurred or is apt to occur from any other cause, excepting that due to bony obstruction, the adjustability allows frequent changes of position to be made for the increase of flexion or extension, as the case may indicate. In cases requiring forcible extension, it has been found that,

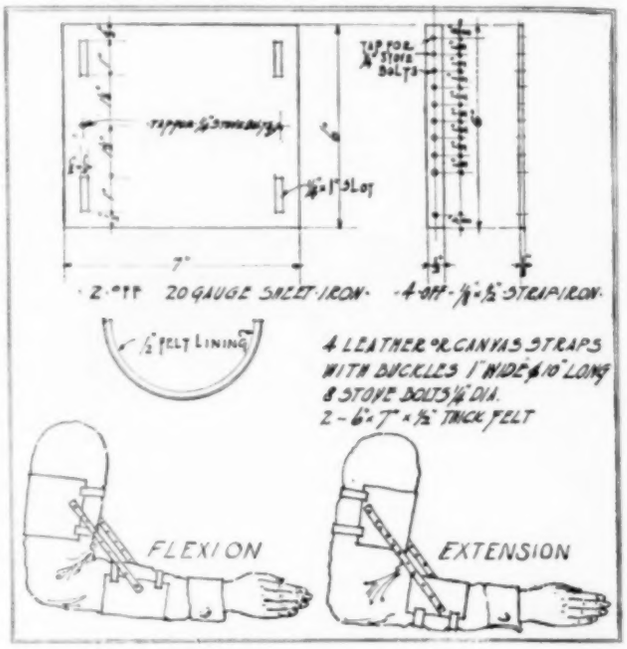
7"
2-.099 20 GAUGE SHEET IRON
4 OFF - ½ × ½ STRIP IRON
½" FELT LINING
4 LEATHER OR CANVAS STRAPS
WITH BUCKLES 1" WIDE & 10" LONG
8 STOVE BOLTS ¼" DIA.
2 - 6" × 7" × ½" THICK FELT
FLEXION
EXTENSION

Fig. 2.—Details of splint.

by attaching an additional strap to the rods connecting the two application plates and passing this strap about the posterior surface of the joint, as much *direct* pressure can be exerted as is possible to be satisfactorily borne by the patient. This strap may be made of material of sufficient elasticity to afford a constant traction tending to the desired extension of the joint.

Although it may seem to be of minor consideration, it has been noted that after a sufficient degree of extension has been acquired, a blouse or coat may be easily worn outside the splint. The simplicity of the device and the ease with which it can be made and adjusted must also be kept in mind as constituting a decided advantage over more complicated types of elbow splints.

Owing to the lightness of the splint, it is most comfortably worn. This point is of special importance because of the fact that the heavier appliances or plaster casts exert a constant and undesirable traction on the muscles and structures in and about the shoulder joint.

There are many other desirable points which are more easily illustrated by the use of the splint than described in a lengthy paper. Practical application of this device has been made for the purpose of obtaining flexion and extension of the elbow joint, and although observations have been made over only a short period, results have been sufficiently gratifying to make the publication of this article seem advisable.

Figure 1 *A* shows an anterior view of this splint applied to a compound, comminuted fracture involving the elbow joint. Figure 1 *B* gives a lateral view of the same case and shows how easily a "cock-up" splint may be riveted to the lower, forearm plate, thus affording a combination splint for those cases of wrist drop that are so commonly seen in injuries in and about the elbow joint. Figure 1 *C* shows the splint applied to the flexor surface of the joint.

The Wisdom of Confucius.—It is easier to know how to do a thing than to do it.

STAB WOUND OF HEART: SUTURE OF HEART MUSCLE, WITH RECOVERY

ETHAN FLAGG BUTLER, M.D., YONKERS, N. Y.
Major, M. C., U. S. Army

History.—H. M., man, aged 42, roofer, admitted to Ward L-4, Second Surgical Division, Cornell, Bellevue Hospital, Nov. 10, 1918, had received a stab wound in the left chest, from which there was considerable hemorrhage. The family history was negative. The patient had had gonorrhea in youth. Since the age of 18 he had been subject to "fits" occurring on an average of once a month and generally following alcoholic excesses. There was a pronounced alcoholic history with more or less regular Saturday night sprees. Otherwise the history was negative. On the night before admission the patient had been drinking heavily, and on the day of admission at 2:30 p. m. he came home and entered into an argument with his wife. He was evidently abusive, and in self defense, the wife seized a "long, sharp butcher knife" and stabbed him in the chest. The patient bled profusely from the wound and commenced to experience respiratory difficulty. He was, however, able to walk across the street to a police station, where an ambulance was called and the patient brought immediately to the hospital. He was still suffering from dyspnea, pain in the left chest, and inability to lie down, but the early profuse hemorrhage had subsided and there was very slight flow of blood from the wound.

Physical Examination.—The patient was a large, well developed man, with good muscular tone. When first seen he was sitting in a chair, with marked dyspnea; the respirations numbered 40 and were labored. The dyspnea was increased by lying down. The patient complained of pain in the precordial region, the pain being accentuated by respiratory motion. There was moderate cyanosis of the head and the extremities. The pulse was 80 and regular in rate, but apparently of low volume and tension. Over the costal cartilage of the left fifth rib, 6 cm. from the anterior midline,

Fig. 1.—Roentgenographic findings forty-eight hours after operation: large left pneumothorax outlined; slight displacement of heart to right.

there was a stab wound 2 cm. long with gaping edges. There was evidence on the clothing that there had been profuse hemorrhage from this wound. When seen first in the hospital, there was very slight oozing from it. Examination of the chest disclosed a resonant percussion note over all the pulmonic areas. The breath sounds were normal. There was no evidence of hemothorax. The area of cardiac dulness did not extend beyond the right sternal margin, and extended to the left to the nipple line at the sixth rib. It had not apparently increased in extent. The heart sounds were faint, but there were no murmurs nor other adventitious sounds. The examination was otherwise negative.

It seemed advisable to submit this wound to surgical cleansing, on account of the nature of the agent causing it, and the attendant possibility of serious infection. Furthermore, because of the possibility of hemorrhage from the large

Fig. 2.—Eleven days after operation: left pneumothorax absorbed; heart returned to normal position; very slight left hemothorax.

vessels near the tract of the knife, it seemed prudent to explore the tract thoroughly and tie off any bleeding points.

Operation.—Four and one-half hours after the accident, with the assistance of Dr. M. T. Roote of the Bellevue Hospital house staff, the operation was begun under local anesthesia. The usual procedures of wound excision, with resection of the skin margins, following the tract of the knife through the subcutaneous tissues and the damaged muscle, were carried out. At this point it was discovered that the knife had passed cleanly through the fifth costal cartilage, severing it transversely. A general anesthesia was then employed, and 12 cm. of the fifth rib resected subperiosteally. The left pleural cavity was opened, the left lung collapsing moderately. No injury to the lung could be determined. Below the point of damage to the fifth cartilage there was a puncture wound through the pericardium 1 cm. in length. From this puncture wound, there was a slow, moderate flow of dark blood, and there were found in the left pleural cavity about 100 c.c. of blood. The opening in the pericardium was enlarged by a longitudinal incision 4 cm. long. A slight amount of clotted blood was found in the pericardial sac, anteriorly. There was no general hemopericardium. In the anterior wall of the left ventricle, there was a wound 1 cm. long extending for an unknown distance into the heart muscle, but apparently not penetrating into the cavity of the ventricle.

On opening the pericardial sac, there was a recurrence of severe bleeding from the wound in the heart, the blood flowing in large spurts synchronous with the contraction of that organ. This could be easily controlled by pressure, but immediately recurred on the release of pressure. Apparently this bleeding was from the muscular wall of the heart, the blood being quite dark. At this point in the operation the heart rate was much accelerated, and it was with great difficulty that two catgut sutures were introduced into the wound in the heart. As soon, however, as these sutures were secured in place, all bleeding ceased. Very little blood had escaped into the pericardial sac, and after the excess had been removed the defect in the pericardium was closed by continuous catgut sutures. However, during the suturing of

the heart muscles a considerable amount of blood had escaped into the left pleural cavity. On account of difficulty with the aspirating outfit, it was impossible to remove all of this blood without recourse to sponging, which caused respiratory distress and had to be abandoned. Therefore an excess of blood — about 300 c.c. — was allowed to remain in the pleural cavity and the wound in the chest wall was closed tightly in layers — parietal pleura, with intercostal muscles, pectoral muscles, subcutaneous tissue and skin. One rubber

Fig. 3.—Appearance of wound twelve days after operation: primary union; all stitches removed.

tissue drain was introduced into the wound as far as the pectoral muscles.

The patient stood the operation well and recovered satisfactorily from the anesthetic.

Postoperative Course.—November 11, the temperature rose to 100.5 and remained irregular during the day. The respiration varied from 18 to 32, the pulse from 62 to 94. Cyanosis was less marked. The general condition satisfactory. The heart sounds were apparently normal and distinct. The percussion note over the left chest was tympanitic, except in the axilla and posterior base, where it was decidedly dull, on account of blood which had not been entirely removed at the time of the operation. The chest was aspirated, and much dark, frothy blood was removed.

November 12, the temperature varied from 100 to 100.5, the pulse from 80 to 100, and respiration from 20 to 26. The systolic blood pressure was 128 and the diastolic 76. The patient was much less cyanotic, and there was less pain. The general condition was satisfactory.

The temperature reached normal on the fourth day after operation, and except for one slight exacerbation has remained normal since. The blood pressure has varied from 114 to 118 on subsequent reading. The pulse gradually steadied down to an average rate of 80. The respiration subsided to 18. Precordial pain disappeared rapidly and was not complained of after a lapse of five days from the operation. The left pneumothorax very rapidly disappeared. Roentgen examination eleven days after operation detected no trace whatever of this pneumothorax. The patient was kept in bed for one week after operation and then allowed to get up in a wheel chair without any untoward occurrence. Convalescence from that point was uneventful. The wound healed primarily, and sixteen days after operation the patient was transferred to the convalescent home at Burke Foundation, White Plains.

After his return from the convalescent home, he reported back to Bellevue Hospital for observation, and was found to be in a wholly satisfactory condition.

THORACOTOMY: A SIMPLIFIED TECHNIC

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Major, M. R. C., U. S. Army

The recent occurrence of epidemic diseases among the new troops in some of the cantonments was associated with an unusually large number of cases of pleural effusions, many of which developed into empyema. A large percentage of these empyema patients required surgical intervention. Some were successfully treated by aspiration alone.

At the base hospital, Camp Zachary Taylor, Ky., out of 128 cases of empyema, for the most part of hemolytic streptococcus origin, treated by open operation, up to the first day of May of 1918, in fifty-five rib resection was performed, and in seventy-three, simple intercostal thoractomy was done. In the first group there occurred seventeen deaths, corresponding to a mortality of 30.9 per cent., while in the second group, eleven deaths occurred, giving slightly less than half the death rate of the former group, or 15 per cent.

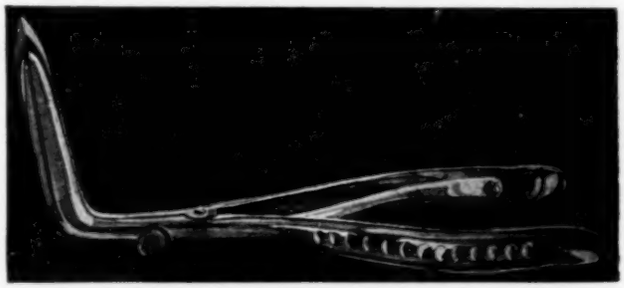
It is not, of course, contended that thoracotomy without rib resection is responsible for this difference in mortality. There are other factors involved, chief of which are the virulence and extent of the invasion, the power of resistance of the patient, and the time that elapses between the occurrence of the effusion and its evacuation surgically. A mortality of 40 per cent. in patients operated on within twenty-four hours of the appearance of the septic effusion (pus or seropus) should be compared with a death rate of 10 per cent. (four deaths) in forty-two cases having an average interval of between nine and ten days between the appearance of fluid and its surgical evacuation, simple thoracotomy being the procedure in the latter group.

If, therefore, at least equally good results may be obtained by the simpler procedure, it should for obvious reasons be preferred. With the object of further simplifying the technic of the operation, the instrument herein illustrated was devised. It is made out of forged steel, following in general plan the Bodenhamer rectal speculum, but having one blade longer and wider than the other. The larger blade has cutting edges for the terminal inch and a half, and tapers to a sharp point. The other blade is narrower, one-half inch shorter, and its blunt end fits into the concavity of the larger blade.

The length over all is 8 inches, the handles measuring 6 inches from the lock. The longer blade is 3 inches long and three-fourths inch wide at the base.

The technic employed in brief is as follows:

1. The pus is invariably located by means of exploratory puncture, and note is taken of the depth at which it is encountered before the needle is withdrawn.



Instrument for simplifying technic of thoracotomy.

2. The skin is anesthetized at the point so determined for a length of 2 inches, the intercostal space being paralleled and incision being made with knife or scissors.

3. All structures to be penetrated are thoroughly infiltrated with either 0.2 per cent. solution of cocain, procain or cocain substitute.

4. With closed blades under gentle pressure the instrument is pushed between the ribs to a depth one-half inch beyond the point at which the pus was located and the blades separated by closing the handles. The set screw will hold the blades open to an extent sufficient to introduce a drainage tube of any size, even a Brewer tube with a small flange.

The procedure is thus reduced to a simple puncture of the chest wall; but its successful execution depends on the thoroughness with which local anesthesia is carried out.

A GLASS TUMBLER IN THE RECTUM

ORVALL SMILEY, M.D., INDIANAPOLIS

The unusual features of this case are the size and shape of the glass tumbler. C. K., a man, aged 55, entered the Indianapolis City Hospital, March 10, 1919, at 2 p. m., saying that about fifty hours before, with the assistance of a woman, he had introduced a small glass into the rectum for the purpose of exciting sexual passion.

Glass tumbler removed from rectum.

When I was called to the hospital I found him in shock with rapid pulse and rising temperature. I could feel one side of the thin edged glass tumbler tightly wedged about 4 inches up in the rectum with the mouth down, into which had rolled the edematous rectal mucosa, making it impossible to move the glass down by traction.

I opened the abdomen, found a beginning peritonitis, and after opening the rectum I first tried again to push the glass down out of the anus, but could not move it. The glass was then removed with great difficulty from above. The bulge of the glass acted as an obstruction in pulling it out through the pelvis. The top diameter of the glass was 3 1/16 inches, the bottom diameter 2 inches. It was 4 inches high. The two small pieces broken from the top edge facilitated its removal to a degree. The patient died sixteen hours later.

219 Newton Claypool Building.

REPORT OF A CASE OF STEEL IN THE LARYNX

FRANK ALLPORT, M.D., AND BRYED WILSON, M.D., CHICAGO

This case is reported, not to expound any new or special surgical technic or diagnostic methods, but rather because it is unusual.

REPORT OF CASE

History.—J. B., man, aged 40, who came to our office, Nov. 2, 1918, reported that on April 19, 1918, while at work in a steel mill shearing tie-plate bars, a fragment of the steel tie-plate flew and struck him on the neck below the point of the chin. He was taken to a hospital where the wound was sutured, and he was treated for about ten days and then returned to work. Since the accident he said that he could not talk above a whisper; and at the time he consulted us his voice was a coarse, rough whisper.

Fig. 1.—Piece of steel, actual size, removed from larynx; weight, 90 grains.

Examination.—The scar of a wound extended from beneath the point of the chin downward and a little toward the left until it reached the level of the larynx. A slight prominence, somewhat conical in shape, at the left lower aspect of the thyroid cartilage of the larynx, was somewhat adherent to the overlying skin, and felt solid to the touch and moved with the larynx. Indirect laryngoscopy revealed an immobility of the left vocal cord, and the whole larynx was moderately inflamed. A roentgenogram disclosed a piece of metal about 1¼ inches in length extending anteroposteriorly and apparently through the left thyroid cartilage of the larynx.

Operation and Result.—The patient was taken to St. Luke's Hospital, and under procain local anesthesia an incision was made over the prominence spoken of above. Immediately after going through the skin and subcutaneous tissue, the scalpel came in contact with a hard metallic substance. By careful dissection, the end of the piece of steel was exposed and grasped with tissue forceps. The anterior end of the steel was freed from a few fibrous attachments by means of a small periosteal elevator, and the steel was gently and easily withdrawn. There was, fortunately, no hemorrhage or other undesirable complications. The incision was closed by one silk suture. The man was placed in bed under a steam tent and carefully watched throughout the next twelve hours and was not allowed to talk. During that time he had had no troublesome symptoms whatever, and now when he was asked a question he replied in a voice that was hoarse but was a speaking voice and not a whisper, as had been the case prior to his operation. He left the hospital in two days, and at the end of a week his voice was a little rough but almost

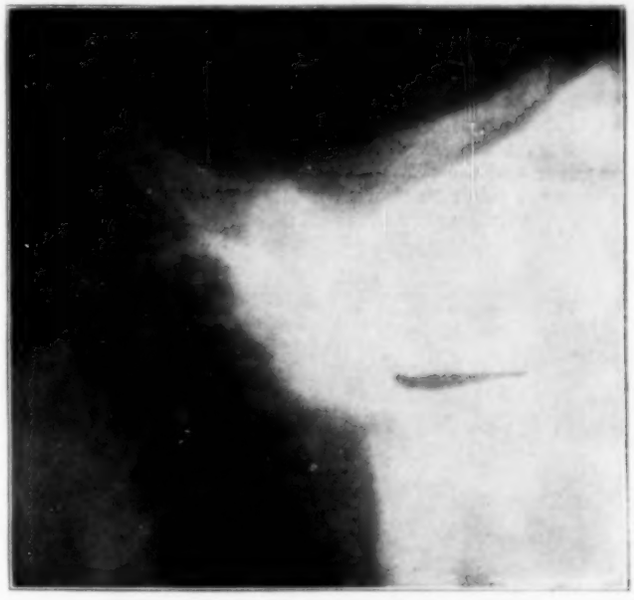


Fig. 2.—Lateral view of steel fragment in wall of larynx.

normal. Since then the roughness has disappeared. On examination by indirect laryngoscopy, the vocal cords are normal in appearance and the left cord again moves normally.

COMMENT

It is probable that the steel had not actually penetrated into the interior of the larynx but had lodged in the cartilaginous wall, so to speak, in such a manner as to immobilize the vocal cord of that side, and the removal of the steel allowed the cord again to functionate and the patient's voice recovered its normal tone.

7 West Madison Street.

Adaptability of Breast Milk.—There is no such stability in the breast milk as in the milk formula in the bottle. It changes not only several times a day and during each nursing, but is influenced and determined by the frequency of nursing, length of nursing and vigor of nursing, that is, it adjusts itself to the kind of baby and the condition of the baby at the breast. How valuable this is when the baby is not feeling well, or needs less energy food, as in summer, all who treat babies know. While a milk modifying laboratory looks impressive with its big pasteurizers and instruments of precision, it is not comparable to the delicate laboratory of a mother's breast.—Julius Levy, M.D.

MENINGOCOCCIC ENDOCARDITIS: REPORT OF CASE

Murray C. Stone, M.D. (Springfield, Mo.)
Major, M. C., U. S. Army
AND
Walter D. Brown, M.D. (Beaumont, Texas)
First Lieutenant, M. C., U. S. Army
CAMP LOGAN, TEXAS

History.—G. A., man, aged 24, with negative family history, had had the usual diseases of childhood, except scarlet fever and diphtheria. Since childhood he had been in perfect health. His present illness began about 4 p. m., Nov. 28, 1918. He had a severe frontal headache, fever and sweats. His symptoms continued during the night, the headache allowing him to get very little rest. The next morning, in addition to the headache, which was about the same, he had severe pains in the calves of the legs. He remained in quarters during the day and the following night. On the morning of November 30 he noticed an eruption on the eyelids and on the trunk, arms and thighs. He was admitted to the base hospital at 8 a. m., November 30. When seen shortly afterward his headache was better, the aching in the legs had disappeared, he had no cold nor cough, his appetite was poor, and he felt feverish.

Examination.—The patient was well developed, and weighed approximately 180 pounds. His mentality was clear. He appeared slightly depressed, but not irritable or nervous. The only striking objective sign was the purpuric rash, which was macular, about 0.25 to 0.5 cm. in diameter, and very scattered. It appeared on the upper eyelids, the shoulder and the pelvic girdle, arms, hands and thighs. The reflexes at this time showed nothing remarkable. The buccal mucous membrane and the throat were red. All other physical signs were negative.

Fig. 1.—Photograph of the heart, showing aortic valve with extensive lesion on one cusp. On the inner surface of the cusp is seen a vegetation, while at the base of the outer surface there is a small, deep ulceration. Smears from this showed many meningococci.

Treatment and Course.—Shortly after admission, lumbar puncture yielded 40 c.c. of fairly cloudy fluid under strong pressure. Thirty c.c. of antiserum were administered intraspinally and 1 c.c. hypodermically as a desensitizing dose. An hour later, 120 c.c. of antiserum were administered intravenously. Daily intraspinal and intravenous injections, in the same amounts as stated above, were administered up to December 6. During this time the patient showed gradual improvement. The spinal fluid cleared and became free of meningococci. His appetite improved, and he was comfortable except for the serum urticaria which appeared, December 5. Neck stiffness and Kernig's sign appeared after the first treatment, and persisted until the end.

No other notable change occurred until December 10, when the routine morning examination revealed a purpuric spot about the size of a dime on the dorsum of the right hand, and another on the outer surface of the left ankle. The patient had rested well during the night and remained comfortable until noon, when he developed a severe headache, together with numerous additional purpuric spots on the hands and feet. Lumbar puncture revealed a cloudy fluid

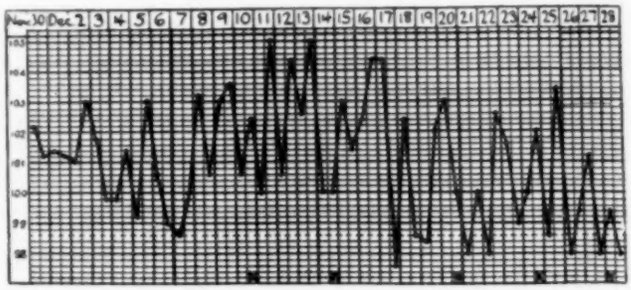


Fig. 2.—In addition to furnishing a good example of a "septic temperature curve," this chart shows how each crop of petechiae was preceded from twenty-four to forty-eight hours by a rise of temperature.

under rather low pressure. Daily intraspinal and intravenous treatments, as before, were given for three days, with about the same degree of improvement. The next relapse occurred, December 14, and was again preceded by a purpuric rash. The symptoms during this recurrence being rather mild, and the patient's reaction to antiserum being more intense, he received only one intraspinal and one intravenous injection. The next exacerbation was December 20 and was preceded by purpuric spots on the hands, elbows, knees and feet. The spinal fluid was slightly cloudy. Thirty c.c. of antiserum were given intraspinally. The intravenous treatment, though administered very slowly, had to be almost immediately discontinued owing to a most violent reaction.

From this time on the patient's condition became gradually worse. Intraspinal injections were given from December 20 to December 24, inclusive.

December 27, another crop of purpuric spots appeared. There was marked mental apathy. Lumbar puncture gave 45 c.c. of bloody fluid. Thirty c.c. of antiserum were given intraspinally. The patient's condition being so desperate, it was considered advisable to give serum intravenously at all hazards. One hundred and forty c.c. were so administered in spite of the patient's becoming violent and dyspneic. The same treatment was repeated, December 28.

December 29, another crop of spots appeared, not so intense in color. The patient sank rapidly, and died at 11:45 a. m. The total amount of serum administered was 1,725 c.c.

Laboratory Findings.—The routine examinations showed a normal urine; the feces were free from parasitic ova, and the throat culture was negative for hemolytic streptococci.

Spinal Fluid: At the first puncture, 40 c.c. of turbid fluid were obtained, showing much pus and a moderate number of meningococci in the smears. Cultures and agglutination test revealed the organism to be a normal meningococcus Type I. A potency test of the treatment serum used in the case was made with the strain of organism causing the infection. Agglutination was obtained in a 1:400 dilution. Specimens of spinal fluid from subsequent punctures gave the showings seen in the accompanying table.

Necropsy.—Body: The patient was a white man, well developed and fairly well nourished. Rigor mortis was present. The skin of the trunk and the limbs showed numerous small red petechiae, and many small, faintly brownish spots, evidently the site of earlier lesions of a similar nature.

Head: The membranes over the convexity of the brain were moderately congested, but showed no exudate nor excess of fluid. The base of the brain about the circle of Willis, and over the surface of the pons, showed a moderate

amount of yellowish exudate beneath the pia, which itself was thickened and adherent. The fluid escaping from the spinal canal was moderately in excess, but not especially cloudy. There were numerous minute hemorrhages over the surface of the cerebellum near the pons. The dura covering the base of the skull was noticeably injected, but showed no exudate.

Spinal Cord: The cord and membranes showed practically no gross changes. An occasional small ecchymotic spot was seen beneath the pia. No lesions were noted in the cauda equina. There was some ecchymosis in the muscles at the site of the lumbar punctures.

Abdomen: The peritoneum was normal. The intestine was distended with gas. The bladder was full. The liver was at the costal border.

Pleural cavities: These were free.

Lungs: These were voluminous and filled with air. There was an old scar at the right apex. There were atelectatic areas at the right base.

Pericardium: There were numerous small ecchymoses. The membrane lacked the usual luster, and the sac contained a few drops of a viscid, yellowish exudate.

Heart: There was a slight enlargement, apparently due to hypertrophy of the left ventricle. All the cavities contained fibrin clots. The valves were normal, with the exception of the aortic. The posterior cusp was the site of a pinkish, irregular vegetation, fleshlike in consistency, and with a broad base measuring 1 cm in diameter. The edge of the cusp was free, the lesion occupying the base and involving

LABORATORY FINDINGS IN THE SPINAL FLUID

Date	Amt. of Fluid, Cc.	Pus	Organisms (Smear)
Dec. 2	30	Present	Present
Dec. 3	40	Present	Absent
Dec. 4	40	Present	Absent
Dec. 5	40	Present	Absent
Dec. 10	35	Present	Present
Dec. 11	45	Present	Absent
Dec. 12	30	Slight	Absent
Dec. 18	40	Present	Present
Dec. 21	35	Slight	Absent
Dec. 22	40	Slight	Absent
Dec. 23	30	Slight	Present
Dec. 27	40	Present	Absent

both surfaces. The outer portion of the lesion was ulcerated into the heart wall for a distance of several millimeters. Other minute vegetations were seen on this and the adjacent cusps. There were a few small atheromatous areas on the ascending aorta.

Spleen: This was two and a half times normal size, very soft and rather pale.

Liver: The liver was pale brownish, not enlarged, and with consistency diminished.

Pancreas: There was nothing worthy of note.

Stomach: There were a few petechial spots beneath the peritoneum, and also in the omentum.

Intestine: This showed nothing remarkable.

Kidneys: These were large and injected, with indistinct markings and numerous small hemorrhages beneath the pelvic epithelium.

Bacteriologic Findings: Smears from the ulcerated base of vegetation on the heart valve showed many gram-negative diplococci.

Anatomic Diagnosis: Leptomeningitis and pachymeningitis (subacute) of the brain and spinal cord were diagnosed. Incipient pericarditis and acute (aortic) endocarditis were found. Petechiae of the skin, the stomach, the omentum and the pelvis of the kidneys were present.

The cause of death was cerebrospinal fever.

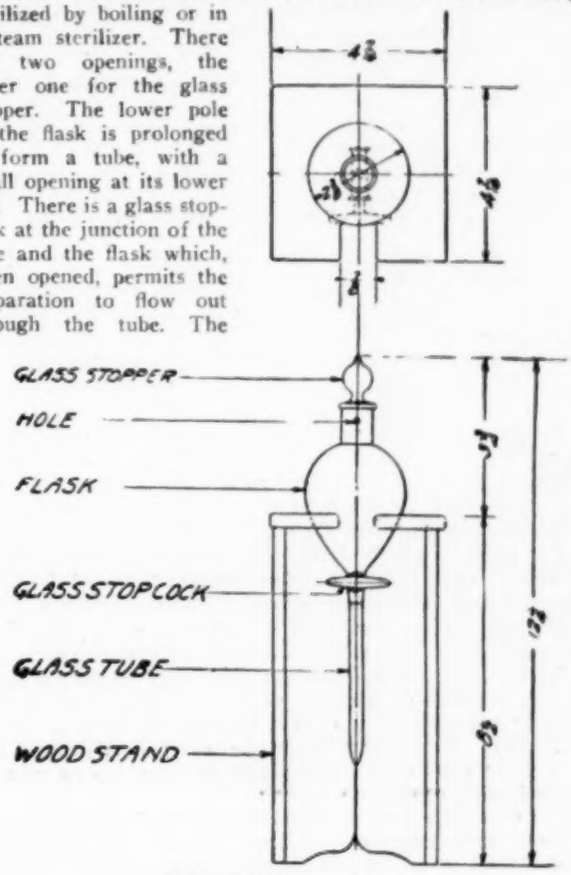
Genius and Eugenics.—Statistics show that genius knows no caste. Men of great achievements orignate in all classes in about equal percentages—they cannot be bred. If eugenics plays a part, its influence is greatly overshadowed by other factors. Getting the right start and then giving full play to one's bent are the vital factors in developing capacity for great achievement.—Dr. P. G. Nutting, *Scientific Monthly*, November, 1918.

DICHLORAMIN-T CONTAINER

M. B. COOPERMAN, M.D., PHILADELPHIA
Assistant Orthopedic Surgeon, Polyclinic Hospital

Those using dichloramin-T have difficulty in applying the solution because of an unsatisfactory apparatus. Atomizers, syringes, medicine droppers and even bottles containing the solution have been used, but all have their faults. Owing to the density of the liquid, it is rather difficult to spray dichloramin-T through an atomizer. Syringes are unsatisfactory because they entail too frequent handling; they are time consuming in drawing up the solution, and contamination of the instrument is very likely. Pouring the liquid from a bottle is crude, while the medicine dropper is very unsatisfactory.

The apparatus here illustrated has proved satisfactory. The container is a pear-shaped glass flask having a capacity of 4 ounces. There are no rubber connections. It can be easily sterilized by boiling or in a steam sterilizer. There are two openings, the upper one for the glass stopper. The lower pole of the flask is prolonged to form a tube, with a small opening at its lower end. There is a glass stopcock at the junction of the tube and the flask which, when opened, permits the preparation to flow out through the tube. The



Dichloramin-T apparatus.

stopper is of blown glass. There is a small hole in the neck of the flask and in the stopper. When the flask is closed and the stopcock opened, the liquid runs out slowly. By turning the stopper until the two holes are in apposition, the air pressure within the flask is increased and the flow of dichloramin-T is thereby accelerated.

The solution cannot be contaminated by dust or air while in the flask.

The dichloramin-T flask is kept on a small white enameled wooden stand. It rests snug in its place and cannot fall off.

When a wounded area is to be treated, the flask is lifted out of its stand and carried to the patient. The stopcock is opened and the liquid flows slowly or rapidly at the will of the operator, over and into the wound, bathing every recess.

The same apparatus, but of greater capacity, is used as a container for neutral solution of chlorinated soda.

The advantages in the use of this apparatus are: (1) convenience in treating wounds; (2) simplicity of construction; (3) avoidance of contamination of the dichloramin-T, and (4) the saving of time which its employment effects.

1811 South Broad Street.

PAINLESS INCISION BY THE USE OF PURE PHENOL

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Milan, Italy

Incision of tissues, even deep ones, can be made painlessly by dipping the scalpel in pure phenol (carbolic acid). Incisions made in this manner will not be followed by even the smarting sensation which follows incisions made by other methods.

TECHNIC

A dry, sterile scalpel is dipped in pure phenol. The point of the back of the scalpel is passed over the intended line of incision, so as to mark it with the phenol. A few seconds later the scalpel is dipped again in the phenol and the tissues are incised very slowly and gently, the scalpel being moved up and down as in cutting with a saw. When blood appears, a sponge is used or blunt retractors are applied, if necessary, the scalpel being dipped in pure phenol as often as required. By this method a film of the phenol is deposited on the blade; this film comes in contact with the tissues as they are cut, and thus anesthetizing them. This film is rubbed off by the tissues or washed off by the blood through which the blade passes, and therefore has to be renewed by dipping the scalpel in the acid as often as is necessary, according to the depth of the tissues to be incised.

ADVANTAGES OF THE METHOD

Absolutely painless incisions are obtained of even very deep tissues, such as the pleura, culdesac of Douglas (four cases), etc. Over 100 pleurotomies have been done by this method, during the last epidemic of influenza, by Professor Buschi of Como, Italy, and the writer. It is the least dangerous method of anesthesia, either local or general. The method has been applied in over 3,000 cases and there has never been the slightest indication of absorption or even slight poisoning from its use. It is the easiest method to apply and the one method which can be applied in all cases and which will always work, even when the tissues are most inflamed and in cases in which either local anesthesia is not possible or general anesthesia is contraindicated. Some of the pleurotomies have been done in patients who were in a moribund state and the results have been most gratifying. It is the most convenient method and the one least feared by the patients, for phenol is found anywhere, and no special preparation, not even painting the skin with iodin, or any instrument or apparatus, not even a syringe, is required for its application. Naturally it is the cheapest method imaginable. In a given class of cases it promotes the complete cure of the pathologic condition.

This statement is most important and requires special mention and some explanation. Incision made with the phenolated scalpel, on account of the slight cauterization of incised tissues produced by the phenol, do not close as rapidly, as incisions made with the untreated scalpel. This was at first thought to be a very serious inconvenience; in practice, however, it has proved to be one of the best points of this method. In fact, any tissue that is incised, the cut edges of which need not adhere immediately, as is the case when a collection of pus has formed or the tissues are highly infected and inflamed, as in cellulitis, or in the presence of a foreign body embedded in the tissues, the too early closing of the cut edges is prevented and the exit of the pus is facilitated by the insertion of gauze, rubber, tubes, etc., which in certain parts of the body can be placed only with difficulty or cannot be kept in the desired place and always act as foreign bodies with all their undesirable results. When the incision is made with the phenolated scalpel all these means become absolutely unnecessary and the complete cure is rendered more easy, painless and more rapid, while the cosmetic results are also much better. This method of incision finds its best indications in cellulitis of the limbs, collection of pus in Bartholin's glands, in the posterior culdesac of Douglas, in or around the gums, the anus, the neck, the face, the axillae, the groins, etc., in which cases the simple incision made with the phenolated scalpel and the wet dressings or frequent washings with warm liquid constitute the whole treatment, which is both complete and rapid.

The phenolated scalpel, for obvious reasons, should not be used when reunion by first intention and suture are desired. The scars produced by the phenolated scalpel are never ugly; in fact, they are much better than those resulting in cases in which drainage was necessary. A slight redness along the incision lasts at times for some days, but disappears completely in a short time.

REPORT OF CASE OF SEPTIC SINUS THROMBOSIS WITHOUT INVOLVEMENT OF THE MASTOID

St. Julien R. de Caradeuc, M.D., Savannah, Ga.

History.—Private S. B., aged 23, was admitted to the hospital, Jan. 14, 1919, with influenza. January 18 he developed measles; January 30 otitis media purulenta acuta of the right ear; January 31 otitis media purulenta acuta of the left ear. Myringotomy was done in each case the day of the development of the acute ear trouble, and irrigations of boric acid solution every two hours were ordered.

The course of the patient's illness was such as would be expected with this complication of diseases and the temperature ranging irregularly from 98 to 104.

February 14, the patient was transferred to the ear ward, as the influenza and measles had subsided and there was no clinical evidence of any disease aside from the discharge from the ears.

February 18, both ears were dry, and on examination the drums presented the appearance of resolution.

February 20, the patient complained of discomfort over the left side of the face, and kept the head covered the entire day. There was no headache. The blood count was: 15,000 leukocytes; 79 per cent. polymorphonuclears.

February 23, the patient had a definite chill lasting about twenty minutes, followed by a rise of temperature to 105.2 (by mouth), accompanied by severe frontal headache, and followed by a profuse sweat. The blood count was: 23,300 leukocytes; 93 per cent. polymorphonuclears. The blood culture was positive for *Streptococcus hemolyticus.*

Physical Examination.—The heart and lungs were normal. The liver and spleen were normal. There was slight inequality of the pupils. The reaction to light was normal. Knee-jerks were slightly exaggerated but were the same on both sides (this had been the case for over three weeks). There was partial ankle clonus on the left side, and complete on the right side. Examination of the urine disclosed some pus cells and a slight trace of blood. Widal test was negative. The blood was negative for malaria. The fundus examination was negative.

February 24, the patient complained of headache, general in character and not confined to any special point or region. At noon he had a severe chill lasting thirty minutes, followed by a temperature of 104.6. Examination of the ears at this time showed the right drum to be normal in appearance with good inclination and light reflex normal. The left drum showed much the same appearance except for absence of the light reflex and a slight dulness. This was the second ear to become involved, and this difference in appearance might perhaps be accounted for in this way. Both drums presented the appearance of a resolving acute otitis media. There was absolutely no mastoid tenderness at this time or at any time during the course of the illness. The blood count was: 38,000 leukocytes; 94 per cent. polymorphonuclears. The blood culture was negative. The physical examination and the urinary examinations were also negative. The fundi were negative. No lumbar puncture was done.

Operation was decided on, but in view of the urinary findings it was suggested that there might be some kidney condition to account for the septic course the patient was running. A cystoscopic examination was made by the urologist, and the findings were negative.

February 25, the blood count was: 31,200 leukocytes; 94 per cent. polymorphonuclears. The blood culture was negative.

Operation.—A simple mastoidectomy under ether was performed with the following findings: The cortex was thick

and very sclerotic. The mastoid cells were normal, and there was no pus even in the antrum. The sinus was exposed, but as there did not appear to be any definite disease of the sinus, it was decided to uncover and inspect the dura over the temporosphenoidal lobe and cerebellum. This was accomplished after considerable difficulty on account of the ivory-like hardness of the bone and the high middle fossa. Much time was consumed in this way unnecessarily. After exposure of the dura and finding it normal, a further examination of the sinus was made, and, as it appeared paler than normal, it was opened and thick pus exuded and continued to exude as from an abscess. The jugular vein was then resected, after which the sinus was again attacked from the mastoid wound. The diseased walls were cut away, and only the dural wall was allowed to remain. A culture from the sinus showed a pure growth of *Streptococcus hemolyticus*. The vein was normal.

The patient made an uneventful recovery.

COMMENT

This case was unusual in that the infection must have spread from the middle ear without involving the mastoid and in that there was a negative appearance of the drum with absolute cessation of the discharge and negative findings in the mastoid. It has been my experience to find great destruction of the mastoid cells when *Streptococcus hemolyticus* is the causative factor, with pain and tenderness over the mastoid negative.

A TEST FOR GLOBULIN IN SPINAL FLUID FOR USE AT THE BEDSIDE*

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Rough tests on globulin solutions showed the isoelectric point to be between p_H 4.4 and 4.7. The p_H value for a 2 per cent. solution of anhydrous potassium dihydrogen phosphate is 4.4. If the globulin precipitation depends on the p_H value of the solution, then a solution of primary phosphate could be substituted for the Noguchi butyric acid sodium butyrate mixture. Various concentrations of the primary phosphate were used, from 2 per cent. to 10 per cent., in testing spinal fluids known to contain excess of globulin, as shown by the Noguchi method. To 0.2 c.c. of the spinal fluid were added 0.6 c.c. of the primary phosphate solution, and the tube containing the mixture was immersed in boiling water for six minutes. The solution acting the most quickly and yielding the largest flocculation was the 3 per cent.; this compares favorably with the Noguchi test.

CHANGE IN p_H VALUE IN BOILING

The p_H values of the mixtures of spinal fluid plus phosphate solution and the mixtures of spinal fluid plus Noguchi's mixture are equal. However, on boiling, the phosphate spinal fluid mixture becomes less acid, as shown by methyl red, while the Noguchi mixture remains unchanged. If the phosphate solution is fortified by the addition of acetic acid so that the p_H value after boiling with the spinal fluid remains about 4.4, the globulin is either not precipitated or the floccules are very minute. Apparently other factors than hydrogen ion concentration enter into the reaction. A 10 per cent. phosphate solution possesses sufficient buffer power to maintain the p_H value during boiling, but the high salt content produces very fine granulation of the globulin. Addition of various amounts of sodium chlorid yields like results. It appears that the globulin precipitation depends not only on the hydrogen ion concentration but also on the amount of salts present.

Spinal fluids tend to become more alkaline even when placed in the ice box over night. For testing such fluids it has been found advisable to add to each 100 c.c. of potassium dihydrogen phosphate solution in 0.05 c.c. of glacial acetic acid.

COMPARISON OF THE PHOSPHATE SOLUTION REAGENT WITH THE NOGUCHI TEST

Through the kindness of Dr. Martha Wollstein of the Rockefeller Institute and Miss Innerstein of the New York City Board of Health Laboratory, twenty-one specimens of spinal fluids were tested with the Noguchi and the 3 per cent. primary phosphate solution plus 0.05 c.c. of acetic acid. Two-tenths c.c. of the spinal fluid was used in each test. In the Noguchi test 0.5 c.c. of 10 per cent. butyric acid in isotonic sodium chlorid solution was added and the mixture heated for two minutes. One-tenth c.c. of normal potassium hydroxid was then added and the tube containing the mixture placed in boiling water for four minutes. The phosphate-acetic acid mixture test was conducted as follows: To 0.2 c.c. of the spinal fluid there was added 0.6 c.c. of the reagent. The tube containing the mixture was placed in boiling water for six minutes. The results of the test are shown in the accompanying table.

The reagent, being less delicate than that of the Noguchi test, gives no precipitate with normal fluids, but consistently indicates fluids in which globulin is present in excess. The reaction requires about two minutes longer heating than is required with the Noguchi test, but requires less manipulation, since one solution is used instead of two. Accurate pipetting of the spinal fluid only is necessary; slight variations in the amount of the reagent added do not affect the end-result. The objectionable odor of the butyric acid is absent; consequently the test can be made in the patient's room. Should small amounts of the solution be spilt in transportation, the diagnostician's kit is not thereby rendered disagreeably redolent. The solution is quickly and easily prepared and is stable, while the Noguchi reagents require accurate titration and tend to become cloudy on standing.

COMPARISON OF RESULTS OF GLOBULIN TESTS ON SPINAL FLUIDS WITH THE NOGUCHI REAGENTS AND WITH 3 PER CENT. POTASSIUM DIHYDROGEN PHOSPHATE ACETIC ACID

Spinal Fluid from Case of:	Butyric Acid Test of Noguchi	3 Per Cent. KH_2PO_4 in 0.05 C.C. of Glacial Acetic Acid
1. Encephalitis lethargica (?)	+	+*
2. Encephalitis lethargica	±	—
3. Tuberculous meningitis	+ + + +	+ + + +
4. Normal fluid	±	—
5. Cerebrospinal meningitis	+ + +	+ + +
6. Tuberculous meningitis	+ + + +	+ + + +
7. Cerebrospinal meningitis	+ + + +	+ + + +
8. Cerebrospinal meningitis	+ + + +	+ + + +
9. Normal fluid	±	—
10. Tuberculous meningitis	+ + + +	+ + + +
11. Normal fluid	±	—
12. Encephalitis lethargica (?)	+ +	+ +*
13. Normal fluid	+	—slight turbidity
14. Cerebrospinal meningitis	+ + + +	+ + + +
15. Encephalitis lethargica (?)	+ +	+ +*
16. Cerebrospinal meningitis	+ + + +	+ + + +
17. Encephalitis lethargica (?)	+	+*
18. Encephalitis lethargica	+	+
19. Encephalitis lethargica	+	±*
20. Encephalitis lethargica	+ +	+*
21. Encephalitis lethargica	+	+*

* Floccules smaller than in Noguchi test.

SUMMARY

A suitable reagent for the globulin test in spinal fluid may be prepared by dissolving 3 gm. of anhydrous potassium dihydrogen phosphate in 100 c.c. of distilled water and adding 0.05 c.c. of glacial acetic acid. In making the test, 0.2 c.c. of the spinal fluid plus 0.6 c.c. of the reagent are mixed in a small agglutination tube and placed in boiling water for six minutes. This test is slightly less delicate than the Noguchi test, but offers some advantages over the latter for field work.

Pathology of Schoolchildren.—In the school year 1917-1918, 21,263 children were examined, and of this number only 6,243 were reported to be normal, and 15,020 to be subnormal, or approximately 75 per cent. of the total number; 4 per cent. were found to be suffering from malnutrition, 5 per cent. from enlarged cervical glands, 15 per cent. with defective vision, 3.5 per cent. defective nasal breathing, 5.5 per cent. with defective teeth, 8.5 per cent. with enlarged tonsils, 1.25 per cent. with impediment of speech. These conditions exist in every community.—*Public Health News*, New Jersey.

* From the Laboratories of the Rockefeller Institute for Medical Research.

Special Article

HOSPITAL SERVICE IN RURAL COMMUNITIES

A PRELIMINARY REPORT

PREPARED BY ERNST C. MEYER, DIRECTOR OF THE DEPARTMENT OF SURVEYS AND EXHIBITS OF THE ROCKEFELLER FOUNDATION INTERNATIONAL HEALTH BOARD

NEW YORK

(*Continued from page 1223*)

PART II. PRESENT CARE OF SICKNESS

A Comparison of Medical Service Available in the United States and in Europe.—As the care of the sick is dependent largely on physicians, it is of interest to inquire into the availability of medical service. Facts set forth in Table 8 show that the United States in 1910 had three times as many physicians in proportion to the population as the most favored nations in Europe. This larger number may have been needed years ago when the population of the country was extremely scattered; but as the population becomes more dense, the necessity for the same proportionate number of physicians decreases.

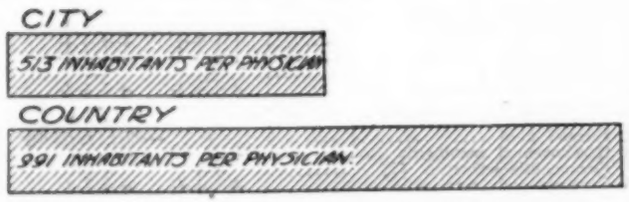

Fig. 4.—A comparison of medical service available in city and in country.

Since 1850, the output of physicians from the medical schools was rapidly increased, so that between 1900 and 1906 inclusive, the annual output exceeded 5,000. The largest number was graduated in 1904, the number in that year being 5,747. Since 1906, as a result of the improved standards of preliminary education and the merging of two or more medical schools in various cities by which in every instance one stronger and better equipped college resulted, a rapid diminution in the number of medical schools has occurred. And the annual number of graduates was likewise decreased, until in 1918 it was but 2,807. While this represents a decrease in quantity, it represents a marked improvement in the qualifications of the physicians graduated. It is quite evident that a physician who is competent to administer efficient treatment promptly is able to care for a larger number of patients than one who is not so well trained. That the United States is still abundantly supplied with physicians, if properly distributed, is evident from the fact that in 1918 there was one physician to every 712 people, or more than twice the number reported for the most favored countries of Europe.

More Service by Fewer Physicians than Formerly.—Contrary to widespread opinion, it seems that in proportion to the population the number of physicians has scarcely grown at all. Whereas the population increased about 138 per cent. from 1870 to 1910, the number of physicians increased about 153 per cent. Whereas in 1850 there were 569 people to one physician, in 1910 there were 582.

While difficult to measure, but highly gratifying to record, there undoubtedly has been a very large increase in the need and demand for medical aid during this period. This includes in particular:

1. Better care of chronic diseases, such as tuberculosis.
2. Increased care in childbirth.
3. Increased demand for purposes of laboratory diagnosis.
4. Increased work for public health inspection and control, as, for instance, medical school inspection and quarantine work.
5. Increase in teaching work and medical investigation.
6. Increase in routine laboratory work.
7. Large development of medical journalism.
8. Increased demand for insurance work.
9. Greater interest in health on the part of the public.

Fig. 5.—Number of bedfast among the sick.

There can be little doubt that the rate of increase in the supply of medical men has failed to measure up to the rate of increase in the demand for medical service. This development is, however, not to be deprecated, but to be welcomed. From the point of view of the general public conditions in the medical profession have been far from satisfactory. The quantity of medical service has been more than offset by its poor quality. With the improvement of medical education, the reduction of the number of graduates, and an increase in the intelligent demand for medical service, the conviction is felt that the quality of that service will continue to improve rapidly.

TABLE 8.—PROPORTION OF PHYSICIANS TO POPULATION IN VARIOUS COUNTRIES

Country	Year	Population per One Physician
United States	1910	582
Austria	1906	2,319
France	1911	1,969
German Empire	1910	2,124
Italy	1911	1,484
England and Wales	1911	1,537
Ireland	1911	1,943
Scotland	1911	1,475
Russian Empire	1912	7,865

Fig. 6.—How 13,132 cases of sickness were found to be cared for (Metropolitan Life Survey).

Less Medical Service in the Country than in Cities.—Medical service, as expressed by the number of physicians available to render it, is far less accessible in the country than in the city. In fact, the country has

only about half as many physicians to a given population as does the city.

In cities of more than 2,500 population there is one physician on an average for every 513 people, whereas in rural regions there is but one physician for every 991 people (Fig. 4). The figures quoted in Table 9 tend to overemphasize the situation, in that many physicians who have an extended country practice

TABLE 9.—RELATIVE NUMBER OF PHYSICIANS IN CITY AND COUNTRY

Population Group	Population	Number of Physicians	Population per One Physician
All cities over 2,500	46,921,963	91,797	513
Under 2,500 and rural	53,476,355	53,434	991

undoubtedly live in cities of more than 2,500. But even after allowance for this has been made, the statistics presented fail to express adequately the wide discrepancy between medical service available in urban and in rural communities. The density of population in cities, and the greater speed of communication and transportation enable city physicians to render much larger service in a given time than can be rendered in the country, where many hours are at times consumed on a single call.

Fig. 7.—How 1,600 cases of sickness were found to be cared for (State Charities Aid Survey).

With the advent of the automobile, improved roads, interurban street car lines, the telephone, and other means of prompt intercommunication, one physician in the rural districts can now care for many times the number that were formerly cared for. Furthermore, country patients now in large numbers go to the city, where they receive treatment by city physicians and in city hospitals.

The different sections of the United States are supplied in a widely variant manner, as is evident from Table 10.

TABLE 10.—SUPPLY OF PHYSICIANS IN VARIOUS SECTIONS OF THE UNITED STATES

Division	Population per One Physician in Communities of: 25,000 and Over	10,000 to 25,000	5,000 to 10,000	2,500 to 5,000	Under 2,500	Total
New England	594	695	744	723	713	649
Middle Atlantic	621	686	614	548	1,037	702
East North Central	511	513	474	407	940	633
West North Central	454	484	424	366	914	668
South Atlantic	405	454	381	350	1,212	792
East South Central	418	421	352	313	987	760
West South Central	461	445	368	317	933	735
Mountain	440	444	489	455	1,040	711
Pacific	466	523	384	364	1,060	599

The rural South has the poorest medical service. The states of the Mountain and Pacific divisions come next, with the middle Atlantic states, New York, New Jersey and Pennsylvania, fourth. It is also of interest that in the South opportunities for medical service in all of the cities are larger than in the North. This may be due to the fact that physicians very largely locate in cities, particularly in those with a population of more than 2,500, and practice in the surrounding country regions. To the extent to which this is true, larger medical service is being given in rural regions than the figures would seem to indicate. In any event, it seems that the cities of the South have a more abundant supply of physicians than those of the North.

Fig. 8.—The large proportion of the sick who are inadequately cared for.

The country regions, it is believed, are further handicapped in medical service by virtue of the fact that physicians in practice there are older, and probably on the whole less up-to-date and efficient in their methods, than in the cities. Whereas, in 1910, 67.2 per cent. of the physicians in the forty-two largest cities were under 45 years of age, only 59.93 per cent. of those in communities of less than 50,000 population were under that age.

What the rural regions appear to need most is not a greater number of physicians but more wise and extensive use of the medical facilities which both country and city at present offer. These regions also need to develop a keener appreciation of the value of the public health nurse and of the full-time health officer. The development of efficient public health administration, better distribution in certain areas of private practicing physicians, harmonious cooperation between public and private health service, and intelligent demand for medical service—these are the things toward which the open country must strive.

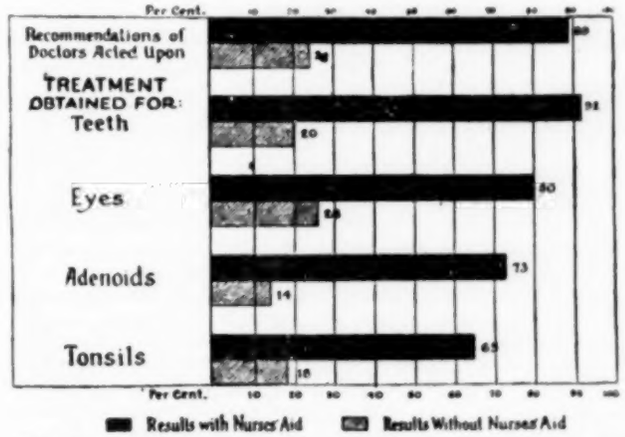

Fig. 9.—How follow-up work by nurses increases the value of the physician's advice. (Through the courtesy of Dr. Thomas D. Wood, Teachers College, Columbia University.)

HOSPITAL FACILITIES IN THE UNITED STATES

No study has ever been made of hospital facilities in the United States. Practically the only information covering the country that is available is found in the United States Bureau of the Census Report of 1910, in which a section is devoted to hospitals and sanatoriums. A summary of the information therein contained is given in Table 11.

In a rough sort of way this table may be a measure of hospital facilities available in various parts of the country. It was not possible to secure information as to the extent to which the urban centers might be favored in the matter of hospital service.

TABLE 11.—HOSPITAL FACILITIES

Division	Number of Persons Treated per 100,000 Population	For Every Hospital and Sanatorium	Population per Physician
New England states	6,022	28,244	564
Middle Atlantic states	3,504	38,631	619
Pacific states	2,911	36,775	435
Mountain states	2,405	23,725	537
East North Central states	2,163	48,028	576
West North Central states	1,554	45,461	573
South Atlantic states	1,293	63,186	795
West South Central states	844	125,493	608
East South Central states	568	135,644	690

THE NUMBER OF THOSE SICK IN BED

The various sickness surveys already referred to showed that about one out of every three sick persons was bedfast. It is important, however, to understand that the Metropolitan Life Insurance Company in its surveys classed all people who because of sickness were actually in bed, either at home or in hospital, as "bedfast" (Fig. 5).

The bedfast constitute a distinctive sick problem. They are generally a heavy drain on the time, energy and resources of those on whom they are dependent. For many of the bedfast the logical place of treatment is the home, for others the hospital. It has been established that a considerable proportion of the bedfast are inadequately cared for, but definite statistical and other data are lacking as to the degree to which hospital care should be given beyond what is being done now.

TABLE 12.—PROPORTION OF BEDFAST

Area	Total Sick	Bedfast—Number	Bedfast—Per Cent.
Boston	1,902	326	17.1
Pittsburgh	1,869*	472	25.3
Rochester	798	220	27.6
Chelsea	356	129	36.2
Kansas City	862	279	32.4
North Carolina	1,881	587	28.4
Pennsylvania and West Virginia	7,333	2,437	33.1
Total	13,132	3,928	29.9

* The Pittsburgh total is included also in the figures for Pennsylvania and West Virginia.

Table 12 summarizes the findings in the sickness surveys within the areas indicated:

ADEQUACY OF MEDICAL CARE

It would seem from such information as is available that a large proportion of the sick, no matter where found, whether in country or city, received no medical care whatever. Out of 13,132 specific cases of sickness covered by the surveys of the Metropolitan Life Insurance Company, 4,411 had no medical care whatever. Among the total numbers of cases of sickness there were 11,975 classed as disabled, that is, the sick were unable to work. Of the latter group no less than 27.2 per cent. had no medical care. This undoubtedly was due more to failure to call a physician than to a lack of physicians. It was also noted that a large percentage of the medical care given was inadequate. This also was probably due more to failure on the part of the patient to call a physician or to having him call with sufficient frequency than to a lack of physicians. A relatively small number of those cared for, 9.8 per cent., were cared for in a hospital. The rest were either not cared for or were cared for in the home (Fig. 6). Table 13 presents details.

Fig. 10.—How cases of typhoid were found to be cared for.

Fig. 11.—How cases of typhoid should have been cared for.

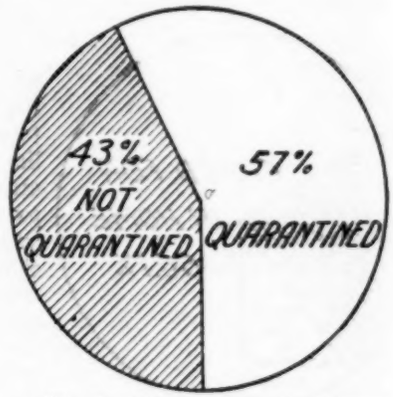

Fig. 12.—The large proportion of cases of measles that were not quarantined.

Of a further group of 1,600 cases, nearly 400, or one quarter of all those who needed medical care, had none. This was probably due more to the common neglect to call a physician, or to poverty, or to a possible lack of confidence in physicians, than to a shortage of the supply of physicians. Only a small proportion of the sick were cared for in hospitals (Fig. 7).

Table 14 presents the statistical details of the care of the 1,600 cases of sickness referred to above.

TABLE 13.—MEDICAL CARE OF THE DISABLED

Area	Disabled	Not Cared for—No.	Not Cared for—%	Nature of Care—Hospital—No.	Hospital—%	Home—No.	Home—%	Dispensary—No.	Dispensary—%
Boston	1,747	442	1,305	74.7	336	25.7	816	62.5	153	11.7
Rochester	661	239	422	63.8	85	20.1	337	79.8		
Chelsea	331	76	255	77.0	56	22.0	166	65.0	33	12.9
Kansas City	816	252*	564	69.1	45	8.0	512	90.7	7	1.2
Pittsburgh	1,791	418	1,373	76.7	200	14.6	1,164	84.8	9	0.6
Pa. and W. Va.	6,908	1,725	5,183	75.0	601	11.6	4,527	87.5	55	1.0
North Carolina	1,512	519	993	65.7	46	4.6	947	95.3		
Total†	11,975	3,253	8,722	72.83	1,169	13.4‡	7,305	83.63	248	2.84

* Other figures for Kansas City refer to sick; not to disabled.

† Excluding Pittsburgh.

‡ The percentage given in this table for cases of sickness cared for in hospital (13.4) is based on the number cared for. Figure 6 includes both the disabled cared for and not cared for; the percentage of hospital care therein shown (9.8) necessarily was based on the total number of disabled; hence the apparent discrepancy.

INADEQUACY OF CARE

The 1,600 cases of sickness already referred to were studied with a view to determining the adequacy or inadequacy of medical care received. By "adequate" care was understood care which resulted in the patient's recovery when recovery could be expected, and which was of such a character that neither the patient nor the community incurred avoidable risks. Unfortunately, four out of every ten of the sick did not get the sort of care they needed. It was found that almost half of those cared for in the homes, and 20 per cent. of those cared for in hospitals, were inadequately cared for (Fig. 8).

TABLE 14.—CARE IN ONE THOUSAND SIX HUNDRED CASES OF SICKNESS

Cases	Number	Per Cent.
In homes	1,058	66.1
In hospitals	159*	9.9
Without medical care	383	24.0
Total	1,600	100.0

* Includes fifty-eight cases cared for in hospital and home.

The inadequacy of hospital care was due chiefly to lack of social service and follow-up work. The importance of follow-up work in securing results in connection with medical care is strikingly illustrated in Fig. 9. The statistics on which it is based were gathered in connection with the medical inspection of school children. The principle, however, would seem to apply also to adults (Fig. 9).

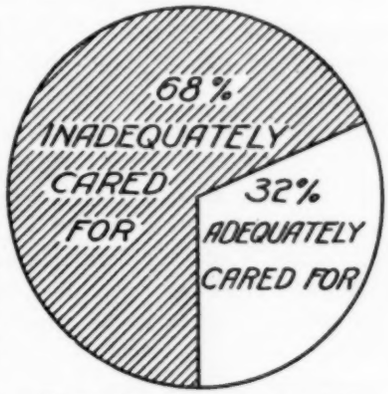

Fig. 13.—The large proportion of cases of measles that were inadequately cared for.

In many cases, patients returned to homes unprepared for them, so that, lacking adequate care, proper convalescence was impossible. In case of home care, poverty, lack of proper surroundings, ignorant attendance, and insufficient medical attention were largely responsible for the inadequacy of care received. In some cases people did not know how to secure good service, or good service was not available in every instance.

TABLE 15.—PROPORTION OF HOSPITAL AND HOME CARE NEEDED

Proper Place for Medical Care	Number of Cases	Per Cent.
In hospitals	442	28.0
In homes	1,158	72.0
Total	1,600	100.0

A few concrete illustrations will serve to emphasize the point. Out of twenty-nine cases of typhoid fever, 45 per cent. received home care, and 55 per cent. were cared for in hospitals (Fig. 10). It was thought that at least 90 per cent. of these cases should have had hospital care, and but 10 per cent. could safely be given home care (Fig. 11).

A further condition which threatened the health of the community was discovered in the treatment of measles. Of 176 cases, 57 per cent. were quarantined, and 43 per cent. were not quarantined. Fifty-three of the seventy-six cases not quarantined were under medical care (Fig. 12). It was found that but 32 per cent. of the 176 cases had adequate care; the rest had inadequate care (Fig. 13). The significance of this situation becomes still further apparent when it is known that these cases represented 2,835 days of sickness, and a loss of 917 school days on the part of seventy-four children of school age.

Similar lessons might be drawn from the conditions found to surround the care of malaria, scarlet fever, whooping cough, diphtheria, grip, chickenpox, tuberculosis and other diseases.

CARE RECEIVED AND CARE REQUIRED

Only about one third of the 1,600 sick who needed hospital care received it. In actual numbers, 159 had such care, whereas 442 were thought to require it. The lack of medical care, as already emphasized, was undoubtedly due more to inability to pay a physician or to neglect to call him than to a scarcity in the supply of doctors. Of those who had no care whatever, the majority could have been cared for in the home, whereas others should have been removed to a hospital (Fig. 14). Table 15 presents the statistical details on this point.

Fig. 14.—The proportion of hospital and home care needed by 1,600 cases of sickness.

Back to School.—In a bulletin of the Children's Bureau on the day's work and the empty schoolhouse, attention is called to the fact that the compulsory school attendance law does not protect the children as it should from the evils of long hours in industry and in the fields in agriculaural work. In the administration of this law, although many officers do their best to enforce the law, there are still many loopholes through which children may be piped to work, keeping them from the schools where they belong. The status of school terms and requirements as to attendance are thus set forth: In ten states the period of attendance is below five months. In Alabama, children must attend school for eighty days, and even this short term may be reduced to sixty days; in Florida, the attendance required is eighty days; in Georgia, four months; in Mississippi, sixty days, but the school board may reduce this to forty days; in North Carolina, four months; in South Carolina, four months in agricultural districts for child laborers; in Tennessee outside of cities of 5,000 scholastic population, eighty days, or entire session if this is less than eighty days; in Texas, 100 days, or entire session if less than 100 days; in Utah outside of first and second class cities, twenty weeks; in Virginia, sixteen weeks. Delaware has a required attendance of five months, which may be changed by vote to three. In three of the states mentioned, Florida, Mississippi and South Carolina, even the short term noted is not a statewide requirement.

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SATURDAY, MAY 3, 1919

SOME DETAILS OF PHOSPHORUS METABOLISM

For many years, diverse compounds containing phosphorus have been made topics of special emphasis in relation to medical problems. The highly toxic element phosphorus has been reputed to be a "nerve stimulant" and "reconstructive tonic." Some of its salts can produce no better recommendation than the vague claim of being "tonics." Sodium phosphate has an independent part as a saline cathartic, which is not associated with the previously mentioned medicinal virtues. Organic phosphorus compounds, notably the complex fat derivatives like lecithin, have been charged with exerting specially desirable effects in the direction of nutrition. One reads that they favor constructive metabolism in the body.

It is conspicuously true that complex phosphorus compounds are found widely distributed in the organism, where they unquestionably exert important functions and have specialized uses. It is not without significance, we presume, that phosphatids like lecithin and kephalin are found in practically every cell, or that they occur in such exceptional abundance in the nervous tissues. The production by the mammary gland of the unique phosphorized protein casein is another instance of "phosphorus specialization" in the animal economy. How do such unquestionably desirable compounds arise? Are they constructed out of preformed organic phosphorus-containing groups which are ingested as such, or can they be manufactured de novo from the simpler inorganic phosphorus derivatives? If the production of phosphorized brain cell and lipoids and the chief protein of the mammary secretion is dependent on special organic phosphorized precursors, obviously it becomes of prime necessity to supply these in the diet and in sufficient abundance.

The period of lactation represents a time when the demands for the structures out of which the specific phosphorus compounds of milk are built are particularly augmented. In an elaborate study on phosphorus metabolism as related to mammary secretion, Meigs[1] and his associates in the Dairy Division of the Bureau of Animal Industry have confirmed the conviction already warranted by other investigations in relation to the form in which phosphorus compounds enter the circulation for distribution to the places of need. Normal plasma contains no phosphorized proteins, and probably no phosphorus compounds at all except phosphatids and inorganic phosphates. The phosphorus of these two classes of compounds certainly comprises more than 97 per cent. of all that exists in normal plasma.

Although the concentration of phosphatid and of inorganic phosphorus in this fluid is highly variable, and both can be made to vary by changing the quantity of phosphorus supplied with the ration, one gains the impression, in harmony with observations of Greenwald,[2] that it is the inorganic fraction chiefly that is influenced in this way. In fact, the more recent researches on digestion and absorptions all point to the probability, to quote Meigs, that phosphorus from the digestive tract reaches the general circulation only in the form of inorganic phosphate, that all organic phosphorus compounds are synthesized within the body cells, and that phosphorized proteins are not transported at all by the plasma from one fixed cell in the body to another. If this conclusion is accepted, the special value of widely advertised organic phosphorus compounds alleged to present the element in some form unusually suited for assimilation disappears; for the digestive processes seem to dissolve all ties of complexity and present to the organism for absorption the uniformly simple ions of inorganic phosphates. This contention has long been supported by the Council on Pharmacy and Chemistry in forming an estimate of the claims of unique therapeutic potency ascribed to preparations of organically bound phosphorus, such as lecithins, glycerophosphoric acid, phytin, nucleic acids, and phosphoproteins. Marshall,[3] who conducted investigations for the Council's Committee on Therapeutic Research, has likewise rejected the view that such organic compounds of phosphorus are absorbed and stored as such by the organism. As he points out, in cases in which the introduction of phosphorus is desired to attempt to facilitate the synthesis of organic phosphorus compounds in the body, the inorganic phosphates, such as abound in foods, are entirely suitable for the purpose.[4]

Accordingly, it must not be supposed that because phosphorus enters the circulation in such simple combinations it escapes further constructive changes. Numerous investigations have indicated that phosphatids can be built up somewhere in the body out of ordinary fats and inorganic phosphates. Bloor's wel!

1. Meigs, E. B.; Blatherwick, N. R., and Cary, C. A.: Contributions to the Physiology of Phosphorus and Calcium Metabolism as Related to Milk Secretion, J. Biol. Chem. **37**: 1, 1919.

2. Greenwald, I.: The Estimation of Lipoid and Acid-Soluble Phosphorus in Small Amounts of Serum, J. Biol. Chem. **21**: 29, 1915.

3. Marshall, E. K., Jr.: The Therapeutic Value of Organic Phosphorus Compounds, J. A. M. A. **64**: 573 (Feb. 13) 1915.

4. For a review of the literature see Grosser: Ergebn. d. inn. Med. u. Kinderh. **11**: 119, 1913.

known studies on fat metabolism[5] make it highly probable that fat absorbed from the alimentary tract is soon converted largely, if not completely, into phosphatids of the lecithin type by the red corpuscles. These phosphatids can thus in turn become the sources of a supply of phosphorus to organs and tissues. Meigs and his co-workers believe, in fact, that many of the tissues and organs of the body, of which the mammary gland and the muscles are conspicuous examples, can receive their fat and phosphorus from the blood only in the form of phosphatid. According to their conception, both structures convert the phosphatid into fat and inorganic phosphate; they use the fat, in the one case, to supply the fat of milk, in the other, to burn and supply energy; and they return the inorganic phosphate largely or wholly to the blood. In all of these newer researches the phosphatids play an important physiologic part as forms of transport for fat and phosphorus, respectively; but there is no indication that the body is dependent on a ready-made supply of phosphatids in the diet to maintain such functions, any more than it requires lactose or casein as such in the food intake to insure a proper production of them in the mammary gland.

HEMOLYTIC STREPTOCOCCI AND THE TONSILS

Death following a variety of acute infections, like measles and scarlet fever, is at present believed to be due to a secondary invader, usually in the guise of a streptococcus, rather than to the primary etiologic agent. Numerous contributions to THE JOURNAL,[6] not to mention other sources of information, have indicated that hemolytic streptococci are widely present in the pharyngeal passages of healthy persons as well as in diseased throats. The incidence of these microorganisms has been reported as high as 82 per cent. in companies of healthy men who have been in army camps for months. During epidemics of measles and of influenza, hemolytic streptococci have been found in some camps in practically all of the throats bacteriologically examined.

The recent investigations of Pilot and Davis[7] at the Cook County Hospital in Chicago, following those of Nichols and Bryan[8] at the Walter Reed General Hospital of the Army in Washington, point to the tonsils as the principal foci of these hemolytic organisms, which are so commonly found in cultures taken from different parts of the mouth and throat. The evidence is in accord as to the predominance of the streptococci in the crypts of the tonsils; and it appears that the frequency of these bacteria is decidedly less in the throats of persons whose tonsils have been extirpated than in the throats of persons having normal tonsils.

As hemolytic streptococci commonly present in the crypts of the tonsils are probably the most important source of the streptococcic complications of various acute infectious diseases, and of terminal infections in the persons innocently harboring the micro-organisms, it is important to ascertain how the secondary infections from them arise. At any rate, it seems more reasonable, on the basis of the knowledge at present available, to charge the responsibility to the tonsil-borne bacteria rather than to an invasion of unusually virulent strains from outside the body. Outbreaks of disease due to the entrance of foreign virulent streptococci unquestionably do occur at times, as the epidemics of septic sore throat testify; but in general the streptococcic infections are presumably associated with preexistent foci, like the tonsils, which harbor the bacteria in the body. Pilot and Davis have thus summarized the possible factors responsible for the secondary streptococcus infections: The existing dormant organisms in the tonsils or throat may become enhanced in their virulence through symbiosis or in some unknown way by the primary virus (measles, scarlet fever, smallpox), or by the bacteria, such as *B. diphtheriae*, the pneumococcus or the influenza bacillus. They may become active through the diminution of the resistance of the local tissues of the respiratory passages. They may attain increased invasive powers through the lowering of the general resistance of the host overwhelmed by an acute or chronic toxemia. Probably all three factors are combined in certain diseases, though one factor often appears to be more important than the others. Thus, in acute respiratory and throat infections, streptococci seem to spread from the tonsillar crypts to the adjacent mucous surfaces, descend into the bronchi and lungs, and enter the blood stream from these tissues. In chronic diseases, on the other hand, the diminution of the resisting power of the blood may admit the streptococci directly into the circulating blood stream without any marked local changes in the throat.

According to the army bacteriologists, local antiseptic treatment of the tonsils has not given satisfactory results, obviously because the crypts cannot be reached effectively in the way that the surface of the organs can. As it was found that excision of the tonsils renders the throat free from the objectionable streptococci in most cases, this operation appears as the only thoroughgoing method of curing carriers. Whether excision of healthy tonsils is justifiable is

5. Bloor, W. R.: J. Biol. Chem. **19**: 1, 1914; **23**: 317, 1915; **24**: 447, 1916; **25**: 577, 1916; Bloor, W. R., and MacPherson, D. J.: Ibid. **31**: 79, 1917. The Lipoids ("Fats") of Human Blood, editorial, J. A. M. A. **67**: 956 (Sept. 23) 1916; Blood Lipoids and Diabetes, ibid. **67**: 1602 (Nov. 25) 1916; Cholesterol and Fat Absorption, ibid. **70**: 542 (Feb. 23) 1918.

6. Irons, E. E., and Marine, David: Streptococcal Infections Following Measles and Other Diseases, J. A. M. A. **70**: 687 (March 9) 1918. Cole, Rufus, and MacCallum, W. G.: Pneumonia at a Base Hospital, ibid. **70**: 1146 (April 20) 1918. Fox, Herbert, and Hamburger, W. W.: The Streptococcus Epidemic at Camp Zachary Taylor, Ky., ibid. **70**: 1758 (June 8) 1918. Park, F. S.: War Edema (Kriegsoedem), ibid. **70**: 1826 (June 15) 1918.

7. Pilot, I., and Davis, D. J.: Hemolytic Streptococci in the Faucial Tonsils and Their Significance as Secondary Invaders, J. Infect. Dis. **24**: 386 (April) 1919.

8. Nichols, H. J., and Bryan, J. H.: The Tonsils as Foci of Infection in Streptococcus Hemolyticus Carriers, J. A. M. A. **71**: 1813 (Nov. 16) 1918.

clearly debatable. There can be no question, however, as to the importance of knowing where danger lurks, so that it can be met and averted with corresponding intelligence.

STANDARDS FOR GROWTH

The period of physical development of each individual is an era of the highest significance for his entire life. It represents a time when all manner of formative influences are brought to bear on a receptive organism: the years when the bodily background for future potentialities is being created. The forces that direct this development and make its progress possible are at least twofold: hereditary and environmental. The environmental forces include nutrition, work and play, and are in some measure controllable. If they cannot always alter the limitations set by inherited factors, they can nevertheless frequently prevent deteriorating influences from making any inroad on the growing individual or interfering with the best attainment of his developmental possibilities.

If we are to assist in any degree in facilitating a proper environment for the young, it obviously becomes essential to have some standards by which to judge the success of the undertaking. What shall be the index of successful or satisfactory nutrition and growth? In everyday life, primary emphasis is at present accorded to the body weight; for this is something measurable with accuracy, whereas the judgments formed by the appearance of the person under investigation have obvious psychologic limitations. Diagnosis almost always gains in accuracy when exact quantitative measurement can be substituted for the guesswork of subjective impressions. Ascertained facts thus supplant haphazard assumptions which vary with the experience and dependability of the observer. To know that a patient has actually lost or gained 15 pounds in weight is decidedly more helpful than to suspect that he is "looking somewhat thin."

Is body weight the best measure of satisfactory growth in children? Or is the determination of growth in height a better index? Can either or both of these factors be related to age in such a manner as to answer the question, What is the normal? These queries have frequently been raised and discussed. A recent critical review of selected data bearing on the subject has been prepared by Holt[1] of the Columbia University College of Physicians and Surgeons. His statistics show a wide variation in the relation of weight to age—the weight-age curve—among the European nations, all of which are represented in our present American population. With such wide variations as those noted both in foreign and in American boys, it is evident, Holt says, that weight for age is not of great importance in determining the nutrition of a child.

Holt's study shows, further, that the curves for height and age in a general way correspond to those of weight and age among the different groups in the United States and also among the foreign boys in their relation to each other, but the variations in the height-age curves are considerably narrower. As the growth impulse is essentially a hereditary factor, it can be understood why variations in height are so great. The tendency to grow often exerts itself even in the absence of adequate nutrition, so that increase in size may occur with stationary weight at times. It appears from Holt's data that a much more important relationship than weight to age or height to age as an indication of the state of the child's nutrition is that of the weight to height. This index of nutrition appears to be far more independent of nationality; but of course there must be actual increment in size as well as a proper proportionality between height and weight. The weight-height index fixes the child's status in nutrition; the annual increase in size indicates his progress. Deviations from the average may still be regarded as normal. For practical purposes Holt puts the permissible deviation at 10 per cent. The careful inspection by a good observer is by no means to be dispensed with in forming an estimate of good nutrition and growth; but it may advantageously be supplemented by the facts secured through anthropometry.

LIPOVACCINES

Prophylactic inoculation of great masses of people against infectious diseases, such as typhoid, cholera, dysentery, plague and possibly pneumonia, has for years been an ideal in the minds of many sanitarians, especially those who have been in contact with the populous but disease-ridden oriental countries where even simple methods of sanitation have encountered opposition. Inoculation itself, however, has met so many practical difficulties that it has remained largely an unattainable ideal. With the vaccines heretofore used, a relatively severe local and general reaction followed the inoculation; and while the health officer, by means of a variety of expedients, might send home his first dose of vaccine, it was quite another matter to induce the subjects to come back for more. Nor has this been true in dealing with unintelligent communities only.

Ferran, so far back as 1885, inoculated thousands against cholera in Spain; the work of Haffkine with plague in India is well known; Shiga inoculated against dysentery in Japan, and the more recent work of Lister in South Africa against pneumonia also seems successful. The most pronounced results have been obtained with typhoid-paratyphoid vaccines. The severity of the reactions, however, has been sufficient to make mass application unpopular and therefore impracticable in civilian work.

1. Holt, L. E.: Standards for Growth and Nutrition, Am. J. Dis. Cat. 1. **16**: 359 (Dec.) 1918.

Perhaps the use of lipovaccines will do more to solve the problem than any other factor. Le Moignic and Pinoy were the first to substitute oils for the physiologic sodium chlorid solution previously used in making vaccines, and the advantages of the change were obvious. Bacterial toxins and even endotoxins, to a degree, are lipotropic; and the fact that their toxic effects are inhibited when they are injected simultaneously with lipoids and lipoid-rich tissues, such as brain substance, has been explained on this basis. The lipoid-oil vehicle of the vaccine serves, therefore, not only in delaying absorption but very probably in some directly neutralizing manner. Indeed, Le Moignic and Pinoy found that they could inject three and four times the dose of the usual saline vaccine at a single injection of the lipovaccine without undue reaction and achieve an immunity that was on a par with that obtained following repeated inoculations with ordinary vaccines. The fact that bacterial vaccines prepared in oil do not deteriorate is also of decided value when mass vaccination is under consideration.

A lipodysentery vaccine has already been produced at the Army Medical School, and recently Fennel prepared a lipopneumococcus vaccine which, because of the simplicity of inoculation, will perhaps supersede the method of inoculation recommended by Lister.

An interesting application has been made, too, by Bossan and Le Moignic[1] with a lipotuberculin. They find that such vaccines, containing either the complete suspension of tubercle bacilli or the filtered product of the dissolved material, are efficient as antigens and at the same time quite innocuous, so far as local and general reactions are concerned.

Of course, a number of technical problems have presented themselves in the mass production of these vaccines—matters of dosage and of the proper sterilization of oils, and the inclusion of efficient preservatives and antiseptics (all of our common agents are lipotropic and therefore of lessened bactericidal power in an oil menstruum), and their sale in interstate commerce has so far not been authorized by our government—but there seems little doubt that within a few years the use of lipovaccines will be of great assistance in prophylactic inoculation against a number of infectious diseases, a procedure which so far has been delayed because of the inherent toxicity of the available vaccines.

1. Bossan, A., and Le Moignic, E.: Progrès Méd., **23**: 99, 1918.

Habits and Health.—The greater proportion of people are born healthy and their way of living makes them sick. The people of America are only 50 per cent. efficient on account of ill health and disease. Apparently our population is 100,000,000; actually it is only 50,000,000. This is the result of wrong feeding, cranky immoderation, not enough air and sunshine; impure and insufficient water drinking; alcohol, caffein and nicotin addiction, and our awful and absurd use of drugs and patent medicines.—*Bulletin*, Indiana State Board of Health.

Current Comment

CANDY AND CALORIES

With the after-war return of the nation to its normal mode of living, there are evidences on all sides of a relaxation of the strenuousness of the program of conservation. Wheat, meat and sugar are no longer restricted in their distribution in the ways that the voluntary rationing schemes of last year demanded. It is reported that the candy manufacturers, who have been so severely hampered by the necessity of producing sugarless sweets, are preparing for an increase in their business in the near future. We are told that the people of this country are learning that "candy is as healthful as it is delicious," and that "candy has more calories per pound than any of what are regarded as the ordinary dishes served at meals in the American household." Even the low score of caramels with only 1,400 calories per pound exceeds all but corn and rice among the more familiar dietary components; while milk is left quite in the background with a mere 800 calories per quart. We have no quarrel with candy lovers or with manufacturers of delicious sweets. Sugar and nuts and fats which enter into common confections are usually as digestible as they are toothsome. Having succeeded in educating the American public in some degree to the real meaning of calories as measures of food fuel, our experts in nutrition are face to face with a new problem in popular education. The public must now be taught that food values are not expressed in calories alone any more than miles-per-gallon of gasoline are the sole criterion of automobile excellence. A properly selected diet represents the inclusion of many items, some of which are not to be evaluated primarily in terms of calories. Every one ought to appreciate, after the nation-wide propaganda for more milk, that the latter food represents nutrient virtues that put it into the cheap-at-any-price class. The green vegetables contribute factors to our diet that candy can scarcely imitate. Even raw meat proved to be a blessing to Stefánsson[1] with which the choicest "package goods" could not compete when his party was threatened with scurvy during their sojourn in the Arctic regions. It has been asserted that sugar and sweets, though valuable fuel foods, are dangerous for children unless the use of these articles is carefully controlled. Writing in the manual of the United States Food Administration, Dr. Ruth Wheeler[2] states of sweets: "Because of their flavor, it is only too easy to eat too much of them. They are likely to cause digestive disturbances, to take away the appetite for other more valuable foods if eaten at the wrong time, and therefore indirectly to cause anemia and bad teeth. Obviously, they are entirely unbalanced foods, supply only fuel and no building materials in any permanent sense of the word. They must, therefore, supplement and not replace other food. In moderation, as dessert after a good meal, they are in their proper place." This expresses the crux of the matter:

1. Stefánsson, V.: Observations on Three Cases of Scurvy, J. A. M. A. **71**: 1715 (Nov. 23) 1918.
2. Wheeler, Ruth: The Children's Food, The Day's Food in War and Peace, U. S. Food Administration, p. 100.

Everything in its place—including candy. To propose that even the most delicious confection shall replace bread and butter, fruits and vegetables, meat and milk, is preposterous. Let candy rest on its long won laurels.

SMITH, JONES ET AL.

An interesting incident occurred in the recent war as the result of a similarity of names. A physician received orders to report for duty; on arriving at his post he discovered that the order was intended for another man of the same name. He failed in an attempt to recover expenses for travel from the War Department, since it was shown that he had not even applied for a commission. Most interesting is a recent incident in the British Army which the *Medical Officer* entitles "The Mysterious Disappearance of Dr. Herbert Jones." It appears that one of the districts of England had been endeavoring to secure the release from the army of its medical health officer, Lieut.-Col. Herbert Jones. While familiarly known as Herbert Jones, this officer was entered in the archives of his local government board as J. H. Jones. The Joneses fill twenty-eight closely printed columns in the Army List; there were thirty-two H. Joneses and seventeen J. H. Joneses, and there was considerable difficulty in attempting to reach the Jones wanted. In its closing statement the *Medical Officer* says: "It is quite possible that an advertisement in this journal —(the *Medical Officer*)—might catch the eye of one who used to be much interested in public health matters." And then—like the familiar valve-handle wheeze—it adds: "As we go to press we learn that Colonel Jones has been found and has now resumed his civil duties."

EDUCATIONAL INTERRELATIONS WITH MEXICO

In his letter last week our Mexican correspondent referred to the good results of recent visits by parties of Americans to Mexico in the establishing of cordial commercial relations between the two countries. He intimates also that closer relations might exist in intellectual lines, a desire which is most commendable and doubtless shared by the intelligent people of both countries. The plan of exchanging university professors has not as yet been carried out with Mexico and not a great many Mexican students do undergraduate or postgraduate work in the United States. If Spanish were studied more extensively in the United States and English more widely in Mexico, it would develop a better understanding between the two nations. All of these things have been much talked about, as our correspondent points out, but thus far have remained only "beautiful projects." He makes a single exception—the Spanish Edition of THE JOURNAL—which he says is the only concrete thing yet realized. Its appeal, however, is mainly to the medical profession and this, our correspondent believes, does not influence sufficiently the ruling, governmental class. The means outlined by our correspondent by which a closer friendship and harmony may be developed between the United States and Mexico deserve careful consideration and definite action on our part. It is reported that already a New York capitalist has offered to donate several million dollars to found an American university in Mexico City provided the Mexican government favors the proposal and that certain conditions can be met. It is said also that President Carranza has heartily welcomed the idea and given assurance that the Mexican government will further the movement in every way possible. It has even been suggested that a loan of $100,000,000 to Mexico by the United States government, to be used in founding schools and colleges, would do much toward solving the so-called "Mexican problem." In times past the universities of this country have exchanged professors with the universities of Great Britain, France and other European countries. It is reported that America and France are planning an exchange of clinical assistants who will be trained in the methods of the other nation in medical practice, philosophy and scientific research. The circle for this exchange of teachers, students, clinical assistants, etc., should be widened so as to include our sister republics. In this way bonds of fellowship, understanding and harmony may be established between the countries of North, Central and South America.

TYPHOID VACCINATION NOT A SUBSTITUTE FOR SANITARY PRECAUTIONS

No one can question the high protective value of typhoid vaccination in the American army. The brilliant results reached are common knowledge. At the same time, the evidence from France reinforces what bacteriologists have suspected for some time—that typhoid vaccination does not afford a protection that is absolute. Massive doses of typhoid bacilli are plainly dangerous, even when ingested by well vaccinated individuals. As in certain other diseases, the sense of security imparted by typhoid vaccination has led some persons to disregard sanitary precautions which might otherwise have been taken. A little knowledge is a dangerous thing. The man who believes that he is protected against typhoid by vaccination may take chances in drinking water from contaminated sources that otherwise he would have avoided. A recent memorandum by the chief surgeon[1] of the American Expeditionary Forces, reprinted in the *Public Health Reports*, points out with much force the necessity for maintaining sanitary regulations for all military organizations, vaccinated as well as unvaccinated. One instance is given of a replacement unit of 248 men reaching England from Camp Cody with nearly 40 per cent. of the men suffering from typhoid. Investigation was thought to indicate that the men were exposed to infection by contaminated drinking water while en route to the port of embarkation in the United States. Other small but relatively severe epidemics have occurred in various units in France. In November, typhoid began to appear more extensively in the expeditionary forces. According to Soper,[2] from September 27 to February 13 there were 821 cases of typhoid and 190 of paratyphoid in the American Expeditionary Forces in France. Apparently a large portion of these were due to the drinking of

1. McCaw, W. D.: Pub. Health Rep. **34**: 605 (March 28) 1919.
2. Soper, G. A.: Engin. News-Rec. April 3, 1919, p. 677.

contaminated water during the fighting in the Argonne. The memorandum by Colonel McCaw, chief surgeon of the American Expeditionary Forces, points out the importance of water contamination and carrier infection in the spread of typhoid fever under the conditions prevailing in France. It is emphasized that vaccination should be regarded only as a partial protection, and should always be reinforced by sanitary measures. In a word, valuable as typhoid vaccination has proved to be, its efficiency does not warrant any relaxation of sanitary precautions. The relatively high resistance of the vaccinated human organism may be overwhelmed by massive doses of typhoid bacilli, and perhaps also by small doses under certain predisposing conditions that increase individual susceptibility in ways not wholly understood.

Association News

VICTORY MEETING

Reduced Fares for Victory Meeting of the American Medical Association, Atlantic City, N. J., June 9-13

The chairman of the Passenger Traffic Committee, Eastern Territory, U. S. Railroad Administration, Mr. C. M. Burt, advises that all special reduced fares have been discontinued, and the resumption of such reductions during the coming summer season is not contemplated. However, summer tourist rates will be in effect to Atlantic City, tickets being sold from May 15 to September 30 with final return limit Oct. 31, 1919. Round-trip fares from Chicago will be $49.02; from St. Louis, $57.96; and from other points round-trip fares will be constructed on the general basis of 90 per cent. of the double one-way fares to Atlantic City, except that if this makes less than double the one-way fare to Philadelphia, then the through fare to Atlantic City will be double the fare to Philadelphia. A similar announcement has also been received at THE JOURNAL office from Mr. W. J. Craig, chairman of the Southern Passenger Traffic Committee.

Those who are planning to go to Atlantic City for the Victory Meeting are urged to consult the local ticket agents at their home town for complete information regarding fares and stop-over privileges available for the trip. Fellows should not leave the determination of the route they desire to take until just before they are ready to start on the trip. The local ticket agents may have to obtain official instructions as well as special tickets from central points, and arrangements should be made in time so that these tickets may be purchased in time for the journey. These local ticket agents will be able to obtain information and advise you concerning circuit routes which may be available and which may permit making side trips in connection with the journey to or from Atlantic City.

Annual Meeting of the Board of Trustees

The annual meeting of the Board of Trustees was held at the Association headquarters, Feb. 7, 1919, all the members being present. The President-Elect and the Speaker of the House of Delegates were also in attendance.

The Editor and General Manager submitted a comprehensive and detailed report which was carefully considered by the board.

COMPLETION OF HEADQUARTERS BUILDING

In addition to much routine business, the board acted on the following matters, which are here reported because of their interest to the membership: The board appointed a committee to consider the advisability of completing the headquarters building, in accordance with plans already adopted. The necessity of providing room for properly housing the employees of the Association and taking care of our increased business, prompted the board to this action. The committee was directed to report back to the board in time so that the board may present this subject to the House of Delegates.

HOSPITAL STANDARDIZATION

The question of hospital standardization was taken under consideration, and as this subject has been especially studied by the Council on Medical Education, the board heard a report from that council on the subject. This report summarized is as follows: When the council was established in 1905, one of its first acts was to define a standard of medical education. This included a requirement that a year be spent as an intern in a hospital. The council found that the majority of the better equipped graduates were voluntarily serving as interns. However, it has constantly been interested in establishing better facilities for this internship, and to this end, has secured certain data concerning hospitals and similar institutions throughout the country. In 1912, the council submitted its first general questionnaire to the hospitals, and the information obtained was verified, so far as this was practical, by inspection of hospitals conducted along with medical schools. In 1914, the council published a provisional list of hospitals which were considered to be equipped in such a manner as to provide acceptable opportunities to their interns. At the annual conference of the council in February, 1915, a preliminary report of the standardization of hospitals was presented. Immediately following this report, a second general survey was undertaken and this was participated in by an advisory committee appointed by the state medical associations. Two of these state committees, those of New Jersey and Pennsylvania, systematically inspected the hospitals of those states, and considerable similar work was done by the committees of other states. A third survey of hospitals is now in progress, the work having been begun in April of last year. The council recommended that, in addition to the use of questionnaires and inspections by the state committees, it is advisable that the hospitals shall be visited and inspected by a representative of that body. The council feels assured that those hospials which provide acceptable opportunities for intern service, at the same time render an acceptable service to the sick.

The Board of Trustees, being advised that certain members of the Board of Regents of the College of Surgeons were in session on that day, invited these regents to a conference on the standardization of hospitals, making this a special order of business for 3:30 in the afternoon. At that hour the following members of the Board of Regents of the American College of Surgeons went into conference with Board of Trustees: William J. Mayo, president of the College, Rochester, Minn.; Albert J. Ochsner, Chicago; George W. Crile, Cleveland; Frank F. Simpson, Pittsburgh, and Mr. John G. Bowman, director of the College of Surgeons. The director of the college, Mr. Bowman, stated that the plan being followed in connection with the work of standardizing hospitals was centered mainly on case records, clinical laboratories and staff organizations. He said that the work was being carried out by a personal inspection of the hospitals. Dr. William J. Mayo said that it was the desire of the college to bring about a sympathetic understanding and cooperation between that organization and the American Medical Association. He stated that the two organizations had much to gain from cooperation, and that duplication of work should be avoided. It was mutually agreed that Dr. Colwell and Mr. Bowman should keep in close touch with each other on all matters pertaining to hospital work. It was also arranged that another conference be held in Atlantic City at the time of the annual meeting of the American Medical Association and that representatives of other organizations interested in hospital standardization and development be invited to be present.

The question of social and health insurance was discussed in a general way by Drs. Phillips and Lambert.

ELECTION TO EDITORIAL STAFFS AND COUNCIL

The board elected to the editorial staff of the *Archives of Internal Medicine*, Dr. George Dock, St. Louis; to the editorial staff of the *American Journal of Diseases of Children*,

Dr. L. Emmett Holt, New York, and Dr. H. F. Helmholz, vice Dr. Frank Churchill, resigned because of removal from Chicago; on the Council of Pharmacy and Chemistry, Drs. C. L. Alsberg, Washington, D. C., Henry Kraemer, Ann Arbor, Mich., and John Howland, Baltimore, each to serve for five years; and Dr. W. W. Palmer, New York, to fill the vacancy caused by the death of Dr. J. W. Long, for a term extending to 1922.

A JOURNAL OF SURGERY

The board decided to establish, as soon as practical, another special journal, on surgery.

PURCHASE OF LIBERTY BONDS

In compliance with the recommendations of the Finance Committee, the board directed the purchase of $30,000 of the Fourth Liberty Loan bonds and set aside $10,000 to be subscribed to the Fifth Victory Liberty Loan.

SECOND MEETING OF BOARD

The Board of Trustees next met on April 18, with all the members present, except Dr. Bert W. Ellis, who was unable to attend; there were also present the President, President-Elect and Speaker of the House of Delegates.

Dr. Phillips reported progress in arranging for the foreign delegates to the coming annual session. The committee of the board having this matter in charge were empowered to act in all matters pertaining to the details in arranging for the Victory meeting.

The board was advised that, according to the action taken at its February meeting, $30,000 of the Fourth Liberty Loan bonds had been purchased, making the total of $115,000 invested by the Association in the several Liberty Loans. On the suggestion of the General Manager, the board directed that a sufficient amount be subscribed to the Victory Liberty Loan so as to bring the total of holdings of the Association up to $150,000.

Medical Mobilization and the War

Personnel of the Medical Corps

For the week ending April 25, the Medical Corps contained 18,567 officers, a decrease of 178 from the previous week. The Medical Reserve Corps contained 1,687 officers. The total number of medical officers discharged since the beginning of the war is 19,378.

Wounded Severely

The following medical officer has been reported as having been wounded severely: James W. Duckworth, Lieut., M. C., U. S. Army, Martinsville, Ind.

Wounded, Degree Undetermined

The following medical officers have been wounded, degree undetermined: James R. Miller, Hartford, Conn., and Manuel G. Morales, Chicago, Lieutenants, M. C., U. S. Army.

Soldiers' Teeth Good

Reports collected by Captain Huber, divisional surgeon of the 88th Division at Gondrecourt, showed that less than half of the 26,437 men in the division needed dental treatment.

Wounded Slightly

The following medical officers have been reported as having been wounded slightly: Eric A. Abernethy, Chapel Hill, N. C.; Charles Lynn, New York; Lewis A. Moore, Monroe, Wis., and Ernest W. Slusher, Kansas City, Mo., Majors, M. C., U. S. Army; and Benedict Aron, Chicago; Valentine B. Eiler, Titusville, Pa.; Aaron T. Lukins, Pullman, Wash., and Barton B. McCluer, Bon Air, Va., Lieutenants, M. C., U. S. Army.

Blind and Maimed

It is reported from the Bureau of War Risk Insurance, April 10, that there are only 125 cases of total blindness and less than 4,000 amputations of the American Forces engaged in war. Not all of the cases of blindness are declared yet, as permanent. Despite rumors to the contrary, there have been no cases of amputation in which men lost both arms and both legs. More than 500 artificial limbs had been furnished up to April 10.

Weekly Bulletin, A. E. F.

(April 7, 1919)

This bulletin is devoted chiefly to extracts from a typical Weekly Health Bulletin issued by the chief surgeon of the Third Army. Most of the material concerns a report as to the occurrence of typhoid in the Third Army, and the remainder to statistics on venereal diseases with the number of cases coming from each town, when known. Attention is called to the fact that louse infestation still occurs among many of the men, and the advisability of close clipping of all of the body hair is to be seriously considered by the surgeon. It is noted that 10,071 members of the 28th Division were found infested with lice on arrival at Le Mans, all of whom have been disinsected. The weekly review indicates that there has been a decrease in all communicable diseases, except in meningitis and typhoid fever. For the month of March chickenpox, measles and the typhoid-paratyphoid fevers have increased, all other diseases decreasing.

Awards of Military Cross

The following medical officers have been awarded the British Military Cross by King George: Frank MacGregor, Temple, Texas; Harold E. Foster, Castile, N. Y., and James H. Keeling, Albany, N. Y., Captains, M. C., U. S. Army, and Burton Maltby, Liberty, Mo., Lieut., M. C., U. S. Army, and Roy A. Douglass, Huntingdon, Tenn.

Awarded Belgian Cross of War

Guy G. Giffen, Lieut., M. C., U. S. Army, Dayton, Ohio, has been decorated with the Belgian War Cross by King Albert.

Distinguished Service Cross

The following officers have been awarded the distinguished service cross by the commanding general, American Expeditionary Forces, for extraordinary heroism in action in Europe:

WILLIAM D. McLELLAND, first lieutenant, Medical Corps, 304th Sanitary Train. For extraordinary heroism in action near Nantillois and Montfaucon, France, September 29 to October 1, 1918. Lieut. McLelland near Nantillois, displayed untiring energy in bringing in the wounded while continually subjected to machine-gun and shrapnel fire. It was necessary to move the dressing station to some abandoned German dugouts because of the heavy fire, and during the bombardment this station was set on fire and six men killed, but Lieut. McLelland, by his coolness and courage, enabled the speedy evacuation of the wounded.

WILLIS H. KEENAN, first lieutenant, Medical Corps, 369th Infantry, Coshocton, O. For extraordinary heroism in action in the Champagne sector, France, Sept. 26-Oct. 1, 1918. Although suffering from illness, this officer remained on duty day and night throughout the engagement. When his battalion was in reserve, he voluntarily went forward to the assaulting battalions whose surgeons had been evacuated. In the attack on Sechault he exposed himself continuously to intense artillery and machine-gun fire while rendering first aid.

THOMAS EDWARD JONES, first lieutenant, Medical Corps, 368th Infantry. For extraordinary heroism in action near Binarville, France, Sept. 27, 1918. Lieut. Jones went into an open area subjected to direct machine-gun fire to care for a wounded soldier who was being carried by another officer. While dressing the wounded runner, a machine-gun bullet passed through his arms and chest and a man was killed within a few yards of him.

JOHN RAY, captain, Medical Corps, 119th Infantry, Raleigh, N. C. For extraordinary heroism in action near Bellicourt, France, Sept. 29, 1918. Establishing his first-aid station in the front line, he advanced with the infantry. He continued on with the troops, caring for the wounded, until he himself was so badly wounded that he was evacuated. He died from his wounds a few days later.

Distinguished Service Medal

General Pershing has awarded the Distinguished Service Medal to the following named medical officers:

FRANCIS A. WINTER, Brigadier-General, M. C., U. S. Army. As chief surgeon of the lines of communication, American Expeditionary Forces, from June to December, 1917, he organized medical units at the base ports and in camps in France. He established large supply depots from which medical supplies were distributed to the American Expeditionary Forces, and by keen foresight and administrative ability, made these supplies at all times available for our armies.

FRANK C. BAKER, Colonel, M. C., U. S. Army. As commanding officer of Evacuation Hospital No. 6, at Chateau-Thierry from June to August, 1918. Colonel Baker so promptly arranged his hospital under most difficult conditions, and, with great resourcefulness and good judgment, made such use of the inadequate means at his disposal that

he was able to receive and evacuate after splendid treatment and in perfect order a large number of wounded from the Marne offensive at a time when that section of France was greatly demoralized.

JOSEPH A. BLAKE, Colonel, M. C., U. S. Army. As chief consultant for the district of Paris, and commanding officer of Red Cross Hospital, No. 2, he efficiently standardized surgical procedures especially in the recent methods of treating fractures. His remarkable talent has materially reduced the suffering and loss of life among our wounded.

GEORGE W. CRILE, Colonel, M. C., U. S. Army, Cleveland. By his skill, researches and discoveries, he saved the lives of many of our wounded soldiers. His tireless efforts to devise new methods of treatment to prevent infection and surgical shock revolutionized Army surgery and met with the greatest success.

GUY L. EDIE, Colonel, M. C., U. S. Army. He was placed in charge of the medical service at Brest at the time when it became the chief port of debarkation for American troops, and at a period when the arrival of troops in unprecedented numbers, and with many sick, overwhelmed all medical arrangements for their care. By his great resourcefulness he successfully overcame the many difficult problems that were presented.

JOEL E. GOLDTHWAIT, Colonel, M. C., U. S. Army, Boston. As a member of the medical corps he has, by his unusual foresight and organizing ability, made it possible to reclaim for duty thousands of men suffering from physical defects. He has thereby materially conserved for combat service a great number of men who would have been lost to the service.

PAUL C. HUTTON, Colonel, M. C., U. S. Army. As chief surgeon of the Paris group from June 2 to July 26, 1918, during which period by his good judgment and untiring energy he provided a hospitalization and evacuation system that insured prompt and excellent care and treatment of the wounded. He furnished the means of saving many lives and provided comfort for the wounded, thereby greatly adding to the morale of the combatant troops of both the American and the French engaged in the second battle of the Marne.

PERCY L. JONES, Colonel, M. C., U. S. Army. He served with marked distinction as commander of the United States ambulance service with the French armies. By the force of his energy, zeal and ability, he brought the units of that service to a high state of perfection. The splendid record held by this service is attributable to his great devotion and untiring effort in accomplishing his tasks.

JAMES R. MOUNT, Colonel, M. C., U. S. Army. Arriving in France with the first American troops he undertook the task of creating a medical supply depot and administering a medical supply service for the American Expeditionary Forces. Using his limited resources with great skill and judgment he displayed unusual talent for organization and laid the foundation of an efficient medical supply service.

ERNEST L. RUFFNER, Colonel, M. C., U. S. Army. He served as surgeon of the intermediate section, services of supply, having under his supervision thirty-nine base hospital units. He performed his strenuous and exacting duties in an unusually efficient manner, displaying rare judgment and professional attainments of the first order.

THOMAS W. SALMON, Colonel, M. C., U. S. Army, New York City. He has, by his constant tireless and conscientious work, as well as by his unusual judgment, done much to conserve manpower for active front line work. He was the first to demonstrate that war neurosis could be treated in advanced sanitary units with greater success than in base hospitals.

ALEXANDER N. STARK, Colonel, M. C., U. S. Army. He served as chief surgeon of the 1st Army during all its offensives, charged with the organization and direction of the medical service, involving the treatment and evacuation of many thousands of sick and wounded under most adverse conditions. In this important capacity he performed his duties with marked ability. With good judgment, furthered by high professional attainments and tireless energy, he solved the difficult problems which arose, prevented much suffering and saved the lives of many among the American and French wounded soldiers.

SANFORD H. WADHAMS, Colonel, M. C., U. S. Army. In his capacity as assistant to the chief surgeon, American Expeditionary Forces, and, later as a member of the general staff, he ably supervised the hospitalization and evacuation activities of the medical corps in advanced areas. By his timely anticipation of requirements he assisted in a marked degree the support of our operations against the enemy.

WILLIAM H. WILMER, Colonel, M. C., U. S. Army, Washington, D. C. As surgeon in charge of medical research laboratories, air service, American Expeditionary Forces, since September, 1918, he has rendered most distinguished service. His thorough knowledge of the psychology of flying officers and the expert tests applied efficiently and intelligently under his direction have done much to decrease the number of accidents at the flying schools in France and have established standards and furnished indications which will be of inestimable value in all future work to determine the qualifications of pilots and observers. The data collected by him is an evidence of his ability, his painstaking care and of his thorough qualifications for the important work intrusted to him. The new methods, instruments and appliances devised under his direction for testing candidates for pilots and observers have attracted the attention and been the subject of enthusiastic comment by officers of the allied services, and will be one of great importance in promoting the safety and more rapid development of aerial navigation.

HENRY BEEUWKES, Lieut.-Col., M. C., U. S. Army. He rendered especially valuable services as inspector of hospitalization of troops in the field. By tireless energy in the performance of his duties he assisted greatly in raising the efficiency of this service and in bettering the facilities for the caring and evacuation of the wounded of our armies.

ERNEST G. BINGHAM, Colonel, M. C., U. S. Army. As chief surgeon of the Paris district he most efficiently directed the coordination of the work of the hospitals and hospital and ambulance trains in the region of the Paris group during the second battle of the Marne. By his untiring zeal and his exact understanding of conditions, he most ably handled the limited hospital resources of the District of Paris, permitting the clearing of the battlefield of the wounded and the proper provision for their care. In all these tasks he showed professional attainments of the highest order, unflagging energy and great devotion to duty.

FRED T. MURPHY, Colonel, M. C., U. S. Army, St. Louis. As director of base hospital No. 21, as supervisor of the evacuation of the sick and wounded of the First Army, and later as director of the bureau of medicine and surgery of the American Red Cross, he rendered most valuable assistance to the American Expeditionary Forces. Throughout his service he displayed unusual administrative ability and professional skill, combined with a genius for organization that contributed greatly to the efficiency of the medical service of the Army. Untiring in zeal and enthusiastic in his duty he was an inspiration to those associated with him.

BURTON J. LEE, Lieut.-Col., M. C., U. S. Army, New York City. As surgical consultant attached to the second division he served continuously at the front, organizing his forces for the treatment and evacuation of the casualties with skill and marked success. He displayed unusual ability in the operations before Soissons when in an emergency he organized, personally led, and directed surgical teams which cared for hundreds of wounded soldiers at a time when adequate hospitalization could not be established.

CHARLES H. PECK, Lieut.-Col., M. C., U. S. Army. As director of base hospital No. 15, which he had organized most efficiently, he displayed unusual skill and very marked ability in the conduct of that unit. Later as senior consultant in general surgery for the American Expeditionary Forces, his professional attainments, wide experience and sound advice proved of inestimable value in increasing the efficiency of the medical department of the United States Army.

ARNOLD D. TUTTLE, Colonel, M. C., U. S. Army. In his capacity as assistant to the chief surgeon, and later, as a member of the general staff, American Expeditionary Forces, he supervised the preparation of hospitalization plans and their execution, and assisted in the evacuation of sick and wounded from the battlefields in such manner as to greatly increase the efficiency of his department.

EMIL H. BURGHER, Major, M. C., U. S. Army. As regimental surgeon of the 138th infantry he supervised the care of the wounded during the Argonne offensive. With untiring energy and ability of a high order, displaying personal courage under shell fire, personally rallying his men and directing them forward, he was an inspiration to all. His dressing station was placed to within a few hundred yards of the front lines, whenever the terrain rendered the passage of ambulances impossible. His zeal, devotion to duty and efficient services added greatly to the morale of all who served with him.

HONORABLE DISCHARGES, MEDICAL CORPS, U. S. ARMY

NOTE.—In the following list L. signifies lieutenant; C., captain; M., major; L. C., lieutenant-colonel, and Col., colonel.

ALABAMA

Bessemer—Terry, L. L. (L.)
Madison—Patton, I. W. (M.)

ARIZONA

Bisbee—Darragh, E. (C.)
Keams Canon—Curran, L. H. (L.)

ARKANSAS

Bauxite—Bryant, R. H. (L.)
Greenbrier — Henderson, G. L. (L.)
Little Rock—Kory, R. C. (C.)
Rogers—McHenry, R. R. (C.)
Wilton—Cathey, A. D. (C.)

CALIFORNIA

Alameda—Maine, A. F. (L.)
Berkeley—McIntosh, A. M. (C.)
Dinuba—Tillotson, C. A. (C.)
Dixon—Floreth, O. P. (C.)
Fresno—Burks, F. L. R. (C.)
Los Angeles—Clarke, W. T. (C.)
Hart, L. (C.)
Johnson, C. A. (C.)
Mayne, W. H. (C.)
Riche, E. J. (C.)
Trout, F. M. (C.)
Pasadena—Breyer, J. H. (L.)
Placerville—Reckers, W. A. (C.)
San Diego — Wilkinson, A. J. (M.)
San Fernando—Ward, B. B. (C.)
San Francisco — Emmal, F. S. (M.)
San Jose—Wilson, D. R. (L.)
Santa Maria—Coblentz, L. B. (C.)
Stockton—Edgerton, A. E. (C.)

COLORADO

Antonito—Shelton, E. K. (L.)
Durango—Richardson, H. L. (C.)
Sterling—Latta, C. J. (C.)

CONNECTICUT

Danbury—Brown, D. C. (M.)
Hartford—Thompson, H. G. (L.)
Waterbury—Leonard, G. A. (L.)

DELAWARE

Wilmington—Speer, W. H. (M.)

DISTRICT OF COLUMBIA

Washington—Brady, J. C. (C.)
Erving, W. G. (M.)
Howard, W. J., Jr. (L.)
Saffold, G. S. (C.)
Snowden, E. (L.)

FLORIDA

Chattahoochee—Gable, J. D. (L.)
Fort Pierce—Whitten, B. L. (C.)
Jacksonville—Pasco, J. D. (M.)
Sarasota—Halton, J. (C.)
Tampa—Mitchell, L. B. (M.)

GEORGIA

Atlanta—Barfield, F. M. (L.)
Barfield, J. R. (L.)
Equen, M. S. (L.)
Fitts, J. W. B. (L.)
Greene, E. H. (L.)
Lawrence, C. E. (L.)
McGee, J. P. (L.)
Mizell, G. C. (C.)
Person, W. E. (C.)
Sauls, H. C. (C.)
Wright, L. T. (C.)
Macon—Massenburg, G. Y. (L.)
Pumpelly, W. C. (C.)
Oakfield—Wall, C. K. (C.)

IDAHO

Driggs—Martin, C. J. (L.)

ILLINOIS

Alexander—Schott, W. H. (L.)
Chicago—Barth, J. J. (L.)
Crowe, T. S. (C.)
Fink, A. H. (L.)
Hall, J. W. (C.)
Holberg, E. A. (C.)
Holmes, W. H. (M.)
Jaros, J. F. (C.)
Kretschmer, H. L. (C.)
Krolick, G. E. (C.)
Martin, H. G. (C.)
O'Connor, D. F. (L.)
Small, C. P. (C.)
Traub, H. W. (L.)
Walker, H. (M.)
Elgin—Hughes, L. J. (C.)
Galesburg—Dawson, J. (C.)
Herrin—Ford, W. H. (C.)
Lombard—Schiele, W. C. (L.)
Loraine—Potter, R. E. (C.)
Murphysboro—Ormsby, O. B. (L.)
Peoria—Spurck, P. T. (L.)
Quincy—Knox, T. B. (C.)
Sutter—Young, J. G. (L.)
Waukegan—Connell, J. A. (L.)

INDIANA

Auburn—Leas, J. A. (C.)
Boonville—Samples, J. T. (M.)
Economy—Loop, A. L. (L.)
Evansville—Johnson, G. C. (C.)
Fort Wayne — Edlavitch, B. M. (L.)
Hammond—Howat, W. F. (C.)
Macy—Peters, R. J. D. (L.)
Muncie—Clauser, E. H. M. (L.)
Rea, C. G. (C.)

Oswell—Bell, D. W. (L.)
Roanoke—Schultz, E. W. (C.)
Romney—McCay, O. L. (C.)
South Bend—Clark, S. A. (C.)
Traver, P. C. (C.)
Waveland—Ball, T. Z. (C.)

IOWA

Amana—Herrmann, C. H., Jr. (L.)
Cherokee—McNeal, M. D. (L.)
Council Bluffs — Merritt, E. A. (L. C.)
Dixon—Binford, W. S. (C.)
Fort Dodge — Studebaker, J. F. (C.)
Fort Madison — Reimers, R. S. (L.)
Hampton—Meyer, H. E. (C.)
Lime Springs — Plummer, H. W. (C.)
Sioux City — McLaughlin, P. B. (M.)
Waterloo—Hadley, E. B. (L.)

KANSAS

Burlington—Manson, D. W. (L.)
Douglass—Bunten, J. C. (L.)
Eldorado—Earp, R. B. (L.)
Hartford—Nienstedt, W. F. (C.)
Hutchinson—Koch, A. G. (L.)
Junction City — Steadman, L. S. (C.)
Liberal—Nichols, R. T. (C.)
Manhattan—Cave, R. R. (C.)
Moundridge—Ruth, G. D. (L.)
Natoma—Drake, E. A. (C.)
Wichita—Slayton, F. H. (C.)

KENTUCKY

Alexandria—Shaw, C. W. (C.)
Blaine—Osborn, H. C. (C.)
Clintonville—Worthington, W. C. (L.)
Danville—Smith, W. H. (C.)
Hazard—Holloway, T. C. (M.)
Louisville—Collier, T. R. (L.)
Fischer, E. H. (L.)

LOUISIANA

Lake Arthur—Abney, W. R. (L.)
New Iberia—Fulton, E. S. (L.)
New Orleans — Holderith, C. P. (L.)
Shreveport—Hicks, O. B. (L.)
Slidell—Griffith, J. K. (L.)

MAINE

Bangor—McNeal, H. D. (L.)
Lewiston—Hall, L. F. (L.)
Portland—Gilbert, F. Y. (C.)

MARYLAND

Baltimore—Binger, C. A. L. (L.)
Gillis, A. J. (C.)
Reinhard, F. O. W. (L.)
Shipley, A. M. (L. C.)

MASSACHUSETTS

Attleboro—Clarke, J. W. (C.)
Boston—Boardman, W. P. (C.)
Means, J. H. (M.)
Wesselhoeft, C. (C.)
White, P. D. (C.)
Wright, W. S. (C.)
Bridgewater—Hunt, W. E. (L.)
Lancaster—Beckley, C. C. (M.)
North Adams—Overlander, J. E. (C.)
North Attleboro — Bryer, J. A. (C.)
Quincy—Sheahan, G. M. (C.)
Salem—Clark, D. S., Jr. (L.)
Springfield—Naumann, A. A. (L.)
Webster—Plouffe, B. L. (L.)
Westborough — Downing, D. F. (L.)

MICHIGAN

Allegan—Stuch, H. W. (C.)
Baroda—King, L. A. (C.)
Bay City—Slattery, M. R. (C.)
Delton—Cross, M. J. (L.)
Detroit—King, E. D. (L.)
Loney, B. S. (L.)
Lowell—Gotfredsen, H. P. (L.)
Pontiac—Farnham, L. A. (C.)

MINNESOTA

Henderson—Traxler, F. J. (L.)
Minneapolis—Baxter, S. H. (M.)
Chowning, W. M. (M.)
Rochester—Egan, W. J. (C.)
St. Paul—Cornica, A. D. (L.)
Gravelle, J. M. A. (C.)

MISSISSIPPI

Kiln—Allred, W. W. (C.)
Natchez—Mullens, C. E. (L.)
Owen, J. A. (L.)
Potts Camp—Pegram, R. H. (L.)

MISSOURI

Appleton City — Divine, D. G. (L.)
Boonville — Lionberger, J. R. (L.)
Columbia—Myer, M. W. (M.)
Kansas City—Dod, F. L. (C.)
Donaldson, C. O. (C.)
Weinberg, A. (L.)
Wyatt, T. E. (C.)
Lilbourn—Bogard, E. (C.)
Sedalia—Long, F. B. (C.)
St. Joseph—Hall, E. (L.)
St. Louis—Brown, W. K. (L.)
Dixon, E. K. (C.)
Flury, J. A. (C.)
Fox, S. D. (L.)
Rassieur, L. (C.)
Wood, J. B. (L.)

MONTANA

Billings—Balsam, E. G. (C.)
Laurel—Stevens, L. (L.)

NEBRASKA

Auburn—Cline, E. (C.)
Beatrice—Brash, G. H. (C.)
Curtis—Minnick, C. (C.)
Grand Island — Johnson, E. G. (L.)
Hastings—Smith, A. A. (L.)
Lincoln—Harms, C. W. W. (L.)
Oakdale—Torpin, R. I. (L.)
Omaha—Jonas, A. F. (L.)
Venango—Levin, I. H. (L.)
Wilber—Storkan, L. J. (L.)

NEW HAMPSHIRE

Concord—Wilkins, R. (L. C.)
Hampstead—Allen, W. A. (C.)

NEW JERSEY

Cape May Court House — Dix, J. M. (C.)
Elizabeth—Boller, E. O. (L.)
Highland Park — Merrill, C. F. (L.)
Jersey City — Commorato, J. R. (L.)
Newark—Ruskin, A. (L.)
Palmyra—Rarig, H. R. (C.)
Passaic—Ryan, J. N. (C.)
Port Norris—Day, S. T., Jr. (L.)
Princeton—Browne, C. (C.)

NEW YORK

Belmont—Lewis, L. C. (L.)
Brooklyn—Beatty, G. W. (C.)
DeGregori, P. H. (C.)
Rochford, F. M. (L.)
Buffalo—Duryea, H. D. (L.)
Fronczak, F. E. (M.)
Gallagher, J. L. (L.)
Vogt, A. H. (L.)
Central Islip—Vaux, C. L. (C.)
Glens Falls — Haviland, M. L. (C.)
Hudson—Galster, H. C. (C.)
Hudson Falls—Park, O. J. (L.)
Kings Park — Brush, C. H., Jr. (L.)
New York—Baketel, H. S. (M.)
Bookman, A. (C.)
Cash, S. L. (C.)
Cutler, C. W., Jr. (L.)
Gardam, J. W. (L.)
Herrick, W. W. (M.)
Hughes, B. (L.)
Lyttle, J. D. (C.)
MacVean, S. N. (L.)
Newsom, T. C. (C.)
Sharpe, F. A. (L.)
Sichel, C. C. (C.)
Sinclair, D. B. (C.)
Wolf, C. (C.)
Wood, W. G. (M.)
Peekskill—Hart, H. F. (M.)
Poughkeepsie—Plass, E. D. (C.)
Rochester—Miller, H. A. (L.)
Schenectady—Burke, J. E. (L.)
Troy—McShane, W. H. (C.)
Warrensburg — Griffin, J. M. (L.)

NORTH CAROLINA

Raleigh—Noble, R. P. (C.)

NORTH DAKOTA

La Moure—Westley, M. D. (C.)

OHIO

Cleveland—Darby, J. C. (Col.)
Columbus—Rowland, G. A. (L.)
Dayton—McClellan, H. H. (L.)
McKemy, J. W. (C.)
East Liverpool — McCutcheon, M. D. (C.)
Fostoria—Burnett, E. J. (L.)
Fremont—Deemer, W. R. (C.)
Harrison—Swing, F. C. (C.)
Port Clinton—Starkes, C. C. (C.)
True, J. A. (C.)
Toledo—Stone, W. J. (M.)
Xenia—Darnell, W. T. (C.)
Youngstown—Dalbey, R. A. (L.)

OKLAHOMA

Cashion—First, F. R. (L.)
El Reno—Runkle, R. E. (C.)
Muskogee—Thompson, C. A. (M.)
Reed—Pearson, L. E. (L.)
Shawnee—Hughes, J. E. (C.)
Taloga—Gore, V. M. (L.)

OREGON

Astoria—Kinney, A. E. (L.)
Portland—Higgs, A. K. (L.)

PENNSYLVANIA

Bryn Mawr — Earnshaw, H. C. (M.)
Gillespie, G. Y. (L.)
Derry—Lohr, F. D. (L.)
Duquesne—Landis, S. S. (C.)
Edgewood—Moreland, G. B. (C.)
Erie—Hess, E. (C.)
Greensburg—Hunter, R. J. (C.)
Llanerch—Roberts, I. B. (C.)
McKeesport—Itscoitz, S. (L.)
Moon Run—Burkett, J. W. (L.)
New Wilmington—Smyser, C. J. (C.)
Palmyra—Bashore, S. D. (L.)
Philadelphia—Ashurst, A. P. C. (Col.)
Creighton, W. J. (L.)
Davies, J. R., Jr. (L.)
Donnelly, R. T. M. (L.)
Flanagan, A., Jr. (C.)
Lee, W. E. (C.)
McIntire, B. M. (C.)
Richards, J. L. (L.)
Rugh, J. T. (L. C.)
Segal, L. (L.)
Pittsburgh—Hamer, E. E. (C.)
Hartman, C. C. (C.)
Morris, F. S. (C.)
Shillito, N. G. L. (C.)
Reading—Grim, D. S. (L.)
Kaucher, C. L. (C.)
Swiftwater—Slee, R. (L. C.)
Washington—Knox, R. A. (L.)
Parry, R. S. (L.)

RHODE ISLAND

Esmond—Hodgson, J. S. (L.)
Pawtucket—Hess, P. W. (C.)
Kenney, J. F. (L.)
Warren—Merchant, M. H. (M.)

SOUTH CAROLINA

Mayesville—Corbett, H. W. (L.)
Orangebury—Montgomery, B. M. (L.)
Ridgeway—Dobson, J. F. (L.)
Rock Hill—Crawford, R. H. (C.)
Woodruff—Workman, B. J. (L.)

SOUTH DAKOTA

Huron—Leach, W. O. (C.)
Wright, O. R. (C.)
Lead—Clough, F. E. (C.)
Mitchell—Ball, W. R. (C.)
Tyndall—Boon, E. H. (C.)
Veblen—Senescall, C. R. (L.)

TENNESSEE

Chattanooga — Revington, J. H. (L.)
Memphis—Glover, C. H. (C.)
Nashville—Brown, C. W. (C.)
Dake, R. W. (C.)

TEXAS

Austin—McLaughlin, J. W. (C.)
Beeville—Egbert, O. E. (C.)
El Paso — Wesson, M. B., Jr. (C.)
Jewett—Smith, V. L. (C.)
Round Rock—Fowler, F. F. (C.)
Sweetwater—Monk, C. L. (L.)
Temple—Stephens, J. D. (L.)
Texline—Johnson, I. B. (L.)
Waco—Stagner, G. H. (M.)
Wichita Falls — Lee, Q. B. (M.)

UTAH

Bingham Canyon — Hageman, P. S. (L.)

VIRGINIA

Danville—Johnson, G. W. (L.)
Ferrell — Caruthers, V. O., Jr. (L.)
Gaylord—Allen, L. M. (C.)
Martinsville — Baldwin, D. O. (L.)
Meadow View—Yokeley, S. H. (L.)
Richmond—Traynham, A. P. (L.)

WASHINGTON

Castle Rock—White, E. W. (C.)
Centralia—Kniskern, E. L. (C.)
Goldendale—Collins, F. H. (C.)
Kelso—Bird, F. A. (C.)
Seattle—Burdick, C. M. (C.)
Fassett, F. J. (M.)
Snow, A. G. (C.)
Spokane—Fursey, F. R. (C.)
Steilacoom—Wilt, F. T. (C.)
Tacoma—LaGasa, J. A. (L.)
Schulz, A. W. (L.)

WEST VIRGINIA

Charleston—Barber, T. M. (L.)
Clarksburg—Halterman, C. W. (C.)
McMechen—Rinehart, A. B. (L.)
Summerville—Kincaid, H. C. (C.)

WISCONSIN

Brodhead—Mitchell, E. J. (L.)
Cornell—Beeson, H. B. (C.)
Gilmanton—Smith, A. D. (C.)
Green Bay—Levitas, I. E. (L.)
Madison—Hodges, P. C. (L.)
Milwaukee—Brown, R. C. (L. C.)
Evais, C. A. (L. C.)
Hitz, H. B. (M.)
Lademan, O. E. (C.)
McMahon, F. B. (C.)
Thompson, F. A. (M.)
Racine—Pope, F. W. (C.)

MEDICAL OFFICERS, U. S. NAVY, RELIEVED FROM ACTIVE DUTY

CALIFORNIA

Los Angeles—Foye, F. A.
Williams, P. M.
San Diego—Thompson, H. A.

CONNECTICUT

Hartford—Lynch, J. F.

GEORGIA

Atlanta—Irvin, I. W.

ILLINOIS

Bloomington—Loar, R. R.
Paris—Myers, A. L.
Springfield—Haskins, H. F.

INDIANA

Evansville—Fritsch, L. E.
Indianapolis—Wood, G. W.

IOWA

Thurman—Cole, H. P.

MASSACHUSETTS

Boston—Alford, L. B.
Cambridge—Peirce, B. H.

MICHIGAN

Ann Arbor—Todd, L. C.
Detroit—Osborn, H. A.
Grand Rapids—Hebard, C. E.
St. Joseph—Martin, F. N.

MINNESOTA

Duluth—McComb, C. F.
Litchfield—Robertson, W. P.

MISSOURI

Webster Groves—Gaston, R. E.

NEW JERSEY

Newark—Mancusi-Ungaro, E.

NEW YORK

New York—Cherry, T. H.
Stevens, A. M.
White Plains—Brush, F. L.

PENNSYLVANIA

Philadelphia—Dever, F. J.
Greco, T. A.
Holmes, J. W.
Lipshutz, B.
Shuster, B. H.
Weber, W. L.

SOUTH CAROLINA

Donora—Anderson, L. W.

TEXAS

Abilene—Hollis, S. W.
Houston—Herndon, R. F.

VIRGINIA

Clifton Forge—Griffith, E. L.

ORDERS TO OFFICERS OF THE MEDICAL CORPS, U. S. ARMY

Alabama

To Camp Gordon, Ga., base hospital, from Camp Dix, Major M. A. WATKINS, Birmingham.

To Fox Hills, N. Y., from Camp Dix, Major L. W. GROVE, Tuscaloosa.

The following order has been revoked: *To Camp Travis, Texas*, Lieut. W. W. ROWAN, Alabama City.

Arkansas

To Camp Pike, Ark., base hospital, from Fort Sam Houston, Capt. J. I. SCARBOROUGH, Little Rock.

To Hot Springs, Ark., from Camp Pike, Capt. F. L. CASTLEBERRY, Paragould.

California

To Camp Kearney, Calif., base hospital, from Camp Lee, Capt. T. J. BERGGREN, Coronado.

To report to the commanding general, Western Department, from San Francisco, Col. J. A. MURTAGH.

To Sacramento, Calif., Mather Field, from San Diego, Capt. P. de OBARRIO, San Francisco.

To San Francisco, Calif., Letterman General Hospital, from Camp Kearney, Capt. H. O. VON DER LEITH, San Francisco.

Colorado

To Denver, Colo., from Oteen, N. C., Capt. S. SIMON, Denver.

To Fort McHenry, Md., from Walter Reed General Hospital, Capt. W. A. McGUGAN, Denver.

To Spartanburg, S. C., from Oteen, N. C., Capt. G. H. CATTERMOLE, Denver.

District of Columbia

To Camp Lee, Va., base hospital, from Camp Dix, Lieut. A. M. MacDONALD, Washington.

To Fort Sam Houston, Texas, from Army Medical School, Col. E. B. VEDDER.

To Spartanburg, S. C., from Camp Meade, Lieut. C. B. COVEY, Washington.

Georgia

To Army Medical School, from Camp Gordon, Capt. S. B. GILLESPIE, Willacoochee.

To Camp Gordon, Ga., base hospital, from Fort McPherson, Major E. V. KELLER, Atlanta.

To Fort McPherson, Ga., from Camp Grant, Lieut. C. M. WEST, Atlanta.

Illinois

To Camp Gordon, Ga., base hospital, from Fort Oglethorpe, Lieut. W. H. MILLER, Chicago.

To Detroit, Mich., from Camp Custer, Capt. J. W. CLARK, Chicago.

To Fort Sheridan, Ill., from Camp Dix, Lieut. R. F. ELMER, Chicago.

To Fox Hills, N. Y., from Camp Dix, Capt. S. B. HERDMAN, Taylorville.

Indiana

To Camp Meade, Md., as orthopedic surgeon, from Camp Dix, Major C. C. CRUM, Jeffersonville.

To Denver, Colo., from Camp Taylor, Capt. H. B. COX, Morristown.

Kansas

To Camp Dix, N. J., base hospital, from Fort Benjamin Harrison, Major H. ATKINS, Pratt.

To Fort Sheridan, Ill., from Jefferson Barracks, Lieut. F. A. TRUMP, Ottawa.

To Pittsburgh, Pa., from Jefferson Barracks, Lieut. A. B. OECHSLI, Stockton.

Kentucky

To Camp Sevier, S. C., base hospital, from Jefferson Barracks, Lieut. J. T. MALONE, Jr., Louisville.

To Camp Zachary Taylor, Ky., base hospital, from Camp Dix, Capt. H. C. WOODARD, Louisville.

Louisiana

To Carlisle, Pa., from Fort Bliss, Major H. P. JONES, New Orleans.

To Washington, D. C., Surgeon-General's Office, from Camp Dodge, Lieut. K. W. KINNEY, New Orleans.

Maryland

To Camp Dix, N. J., from Plattsburg Barracks, Capt. M. LEVY, Baltimore.

To Camp Meade, Md., from Camp Dodge, Capt. O. H. McNEMAR, Odenton.

To Colonia, N. J., from Walter Reed General Hospital, Capt. H. P. MAUCK, Lieut. D. F. ELMENDORF, Baltimore.

To Walter Reed General Hospital, D. C., from Fort Ontario, Lieut. P. PEARLSTEIN, Baltimore; from Hoboken, Major G. A. STEWART, Baltimore.

The following order has been revoked: *To Fort McHenry, Md.*, from Camp Dix, Lieut. C. A. REIFSCHNEIDER, Baltimore.

Massachusetts

To Army Medical School, from Camp Meade, Major A. W. SELLARDS, Boston.

To Camp Dix, N. J., base hospital, from Eastview, Capt. H. E. CARNEY, Boston.

To Fox Hills, N. Y., from Camp Dix, Major T. W. HARMER, Boston.

The following order has been revoked: *To Camp Crane, Pa.*, from Hoboken, Lieut. G. A. BUCKLEY, Brockton.

Michigan

To Camp Dodge, Iowa, base hospital, from Camp Custer, Lieut. C. R. WALSH, Detroit.

To Camp Kearney, Calif., camp hospital, from Arcadia, Major H. S. BARTHOLOMEW, Lansing.

To Camp Upton, N. Y., base hospital, from West Baden, Capt. P. B. TAYLOR, Detroit.

To Fort Sheridan, Ill., from Camp Custer, Lieut. W. M. BURLING, Grand Rapids.

Minnesota

To Camp Dodge, Iowa, base hospital, from Rock Island, Ill., Major C. H. CLARK, Duluth.

To Fort Snelling, Minn., from Camp Dodge, Capt. F. M. MANSON, Worthington.

The following order has been revoked: *To report to the commanding general*, Southern Department, from San Antonio, Capt. J. C. WILKINSON, Red Lake Falls.

Missouri

To Camp Abraham Eustis, Va., camp hospital, from Pig Point, Va., Lieut. E. V. KRING, St. Louis.

To Camp Dodge, Iowa, as tuberculosis examiner, from Jefferson Barracks, Capt. F. C. ESSELBRUEGGE, St. Louis.

To Camp Zachary Taylor, Ky., from Jefferson Barracks, Capt. G. S. DRAKE, Lieut. J. L. HUTTON, St. Louis.

To Fort McPherson, Ga., from Fort Sill, Capt. T. J. LYNCH, St. Joseph.

To Fort Sheridan, Ill., from Jefferson Barracks, Capt. A. LEVY, St. Louis.

To Fox Hills, N. Y., from Williamsbridge, Capt. J. F. McFADDEN, St. Louis.

To St. Louis, Mo., from Jefferson Barracks, Lieut. H. J. BLOUNT, Potosi.

Montana

The following order has been revoked: *To Hot Springs, N. C.*, from Camp Zachary Taylor, Lieut. J. E. ARNOLD, Miles City.

New Jersey

The following order has been revoked: *To Camp Zachary Taylor, Ky.*, base hospital, from Camp Dix, Capt. T. S. McCABE, Newark.

New York

To Camp Dix, N. J., as orthopedic surgeon, from Army Medical School, Lieut. C. A. LEE, Brooklyn. *To examine the command* for nervous and mental diseases, from Camp Meade, Lieut. C. E. TUBB, Poughkeepsie.

To Camp Sherman, Ohio, to examine the command for cardiovascular diseases, from Jefferson Barracks, Lieut. C. SHOOKHOFF, Brooklyn.

To Eastview, N. J., from Fort Riley, Capt. W. P. BLISS, New York City.

To Fort Ontario, N. Y., from Syracuse, Capt. E. J. WYNKOOP, Syracuse.

To Fort Schuyler, N. Y., from Camp Grant, Major S. S. PIPER, Elmira.

To Fort Sheridan, Ill., from Jefferson Barracks, Lieut. N. W. GETMAN, Oneonta.

To Fort Snelling, Minn., from Camp Dix, Capt. T. H. SWEETSER, New York.

To Fox Hills, N. Y., from Camp Dix, Capt. W. G. DORAN, New York; from Williamsbridge, Capt. L. E. GRIMBERG, New York.

To Hoboken, N. J., from New York City, Major L. K. GRAVES, Elmhurst; from Surgeon-General's Office, Lieut. R. MALCOLM, Yonkers.

To Lakewood, N. J., from Camp Dix, Lieut. N. M. DINGMAN, New York.

To Otisville, N. Y., from Oteen, N. C., Lieut. W. G. HAYWARD, Jamestown.

To Washington, D. C., Surgeon-General's Office, from Hoboken, Lieut.-Col. C. H. YOUNG, New York.

The following order has been revoked: *To Camp Upton, N. Y.*, base hospital, from Camp Dix, Capt. J. J. PARSONS, Cortland.

North Carolina

To Oteen, N. C., from Otisville, Capt. J. R. WILLIAMS, Asheville.

To Pittsburgh, Pa., from Camp Polk, Capt. E. M. BARNES, Raleigh.

To Spartanburg, S. C., from Camp Gordon, Capt. C. C. ORR, Asheville; from Camp Upton, Capt. C. S. JORDAN, Asheville.

To Walter Reed General Hospital, D. C., from Camp Greene, Lieut. J. J. MOORE.

Ohio

To Camp Zachary Taylor, Ky., base hospital, from Jefferson Barracks, Lieut. R. L. KUNKLE, Piqua.

To Fort Riley, base hospital, from Camp Cody, Capt. W. F. MILLHON, Columbus.

To Fox Hills, N. Y., from Williamsbridge, Lieut. G. H. REEVE, Cleveland.

To Rantoul, Ill., from Hampton, Va., Lieut. J. W. CAINES, Cuyahoga Falls.

To report to the commanding general, Philippine Department, from Camp A. A. Humphreys, Capt. H. S. HAYES, Whitehouse.

To Spartanburg, S. C., from Oteen, N. C., Lieut. A. M. ROSENBLUM, Youngstown.

To Walter Reed General Hospital, D. C., from Philadelphia, Capt. A. CROTTI, Columbus; from Surgeon-General's Office, Major P. D. WILSON, Columbus.

Oklahoma

To Mineola, N. Y., Hazelhurst Field, from Fort Reno, Capt. W. W. D. AKERS, Tyrone.

Oregon

The following order has been revoked: *To Camp Lewis, Wash.*, Lieut. B. R. BROOKE, Portland.

Pennsylvania

To Camp Dix, N. J., to examine the command for nervous and mental diseases, from Lakewood, Lieut. C. E. CASE, Philadelphia.

To Otisville, N. Y., from Camp Abraham Eustis, Lieut. H. P. BLAKE, Walston.

To Pittsburgh, Pa., from Washington, D. C., Lieut. T. F. MOORE, Pittsburgh.

Rhode Island

To Camp Devens, Mass., from Panama Canal, Major G. W. GARDNER, Providence.

To Fox Hills, N. Y., from Camp Dix, Capt. C. A. FARRELL, Westerly.

South Carolina

To report to the commanding general, Eastern Department, from Charleston, Col. T. J. KIRKPATRICK, Jr.

South Dakota

To Fort Des Moines, Iowa, from Camp Dix, Capt. G. G. COTTAM, Sioux Falls.

To Fort Sheridan, Ill., from Fort Oglethorpe, Lieut. N. J. NESSA, Sioux Falls.

Tennessee

To Camp Lee, Va., base hospital, from Colonia, Lieut. C. W. ROBINSON, Memphis.

To Camp Zachary Taylor, Ky., from Camp Shelby, Capt. J. H. McCALL, Huntington.

Texas

To Camp Meade, Md., from Camp Dix, Major W. H. LLOYD, El Paso.

To Camp Travis, Texas, from Camp Zachary Taylor, Lieut. A. D. WAGES, Waco.

To Fort McPherson, Ga., from Fort Worth, Lieut. R. WRIGHT, New Braunfels.

To Fort Sam Houston, Texas, base hospital, from Camp Dix, Major W. F. McMANUS, San Antonio; from Fort McHenry, Capt. M. W. SHERWOOD, Temple.

To Mineola, N. Y., from Houston, Major J. DIBBLE.

To Washington, D. C., Surgeon-General's Office, from Houston, Lieut. H. M. ANDREW.

The following orders have been revoked: *To Camp Meade, Md.*, from Camp Dix, Major J. G. FLYNN, Galveston. *To report to the commanding general*, Southern Department, from Houston, Lieut. D. H. BROOK, Travis.

Utah

To Fort Douglas, Utah, from Camp Lewis, Capt. H. C. JORGENSON, Salt Lake City.

Vermont

The following order has been revoked: *To Camp Sheridan, Ala.*, base hospital, from Camp Dix, Lieut. J. D. THOMAS, Pownal.

Virginia

To Fort Porter, N. Y., from Fort Ontario, Lieut. G. G. HANKINS, Phoebus.

Wisconsin

To Walter Reed General Hospital, D. C., from Fort Ontario, Capt. W. T. KRADWELL, Wauwatosa.

The following order has been revoked: *To Lake Charles, La.*, from Montgomery, Ala., Capt. H. S. STEENBERG, Milwaukee.

Wyoming

To Walter Reed General Hospital, D. C., for instruction, and on completion *to his proper station*, from Jefferson Barracks, Capt. O. P. HAMILTON, Sheridan.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Laboratory Donated.—Dr. Russell M. Cunningham, Birmingham, has donated to the Jefferson County Medical Society his large medical library, which has been installed in the medical section of the public library in the city hall.

Power Company Surgeons Meet.—Surgeons employed by the Alabama Power Company held their annual meeting in Birmingham, April 14, under the presidency of Dr. Benjamin B. Simms, Talladega. About forty members were present at the meeting.

Personal.—Dr. F. Marion Inge, Mobile, was elected president of the World War Veterans at the meeting held in Mobile, April 14.——Dr. Andrew M. Stovall, Jasper, was rescued from drowning in the Mobile River by Capt. Edward Roberts, who has been recommended by the Medical Association of the State of Alabama to receive a Carnegie Medal.

State Association Meeting.—The fifty-second annual session of the Medical Association of the state of Alabama was held in Mobile, April 15, 16 and 17. As Dr. Isaac L. Watkins, Montgomery, the president, was unable to preside because of sickness, Dr. William F. Betts, Evergreen, the first vice president, presided, assisted by Dr. Henry S. Ward, the second vice president. The meeting was a very interesting one and was in the nature of a victory meeting, and most of the papers were by men who had seen military service. A service flag was unfurled commemorating the 603 Alabama doctors (out of a total of 2,400 in the state) who accepted commissions in the Army and Navy. Six gold stars adorned the flag. Proper exercises were held to welcome the returned and to commemorate the dead. Lieut.-Col. James Somerville McLester, Birmingham, who was consultant to the medical staff at Brest, was elected president, and Dr. Walter Stratton Britt, Eufaula, vice president. The association had as its distinguished out-of-state visitors Drs. Joseph Colt Bloodgood, Baltimore, and George W. Crile, Cleveland. The next meeting will be held on the third Tuesday in April, 1920, at Anniston.

CALIFORNIA

Physicians' Licenses Revoked.—On March 21 the California State Board of Medical Examiners revoked the licenses held by Dr. J. Ottis Burnette and Dr. George H. Richardson, both of Los Angeles, on charges of having performed illegal operations.

Chiropractic Bill Twice Defeated.—A bill providing for a separate board for the licensing of chiropractors was defeated in the California legislature on March 26 by vote of 39 to 38. It was reconsidered on April 2 and again defeated, this time by a vote of 42 to 32.

Correction.—The notice of the death of Roy Oliver Thompson, which appeared in THE JOURNAL of April 19, page 1175, was incorrect. Dr. Thompson states, and THE JOURNAL is glad to announce, that he had a mild attack of influenza in March, 1919, but made a good recovery. Our report of the death of Dr. Thompson was based on a notice which appeared in the Los Angeles *Times*, which was sent to THE JOURNAL by the *California State Journal of Medicine*.

Draft Board Members Organize.—Physicians who have served on boards of the selective draft met in Santa Barbara, April 17, and took the preliminary steps toward forming a national organization, the plans of which will be perfected at the meeting of the American Medical Association in June. Dr. Henry P. Newman, San Diego, was selected as president of the association, and Dr. Paul E. Simonds, Riverside, as secretary.

Personal.—Dr. LaVerne C. Wright, Oakland, has returned after nearly a year of Red Cross work in France.——Dr. Henry O. Eversole, Los Angeles, heads the group of Red Cross workers on the British hospital ship, *Madras*, which is carrying the first contingent of Czechs from Vladivostok to Trieste.——Dr. Luther M. Powers has been reappointed health commissioner of Los Angeles.——Dr. Thomas B. W. Leland, Lieut.-Com. M. C., U. S. Navy, San Francisco, has been discharged from the Navy and has resumed his duties as coroner of San Francisco.

State Society Meeting.—At the annual meeting of the Medical Society of the State of California held in Santa Barbara, April 15-17, under the presidency of Dr. Cornelius Van Zwaluwenburg, Riverside, the following officers were elected: president, Dr. Henry A. L. Ryfkogel, San Francisco; vice presidents, Drs. Henry G. Brainerd, Los Angeles, Dudly A. Smith, Oakland; secretary, Dr. Saxton T. Pope, San Francisco (reelected); delegate to the American Medical Association, Dr. Alfred B. Spalding, San Francisco, and councilors, Drs. William H. Kiger, Los Angeles, James H. Parkinson, Sacramento, and Oliver D. Hamlin, Oakland. Del Monte was selected as the next place of meeting

Illegal Practitioners Arrested.—A Portuguese, named Gonsales A. Da Horta, according to a report from Fresno, was arrested on March 28 for practicing medicine without a license. He was released on $200 bail.——A news report from San Francisco states that Dr. Samuel P. Blumenberg was arrested on March 4 on a charge of having performed an illegal operation on a young woman which is said to have caused her death.——An Oakland report states that three Chinese, Fong Wan, Chen Law Sing and Lai King, were arrested by the state medical board for practicing medicine without licenses. They have been released on bail of $300 each.——Dr. T. Leung, a Chinese herbist of Los Angeles, was arrested by the state medical board, according to report, for violating the medical practice act. He was released on bail of $1,500.——Seven Japanese physicians, R. Haruki G. Suzuki, T. G. Nacayama, B. Nakaraha, T. H. Hayashi, John Doe Watanobi and John Doe Ochiai, according to a report from San Francisco, were arrested several months ago on charges of falsifying their examination papers before the state board of medical examiners. The state board discovered that the interpreter who assisted them with their examination papers was making a business of such practice. Bail in each case was fixed at $3,000.

GEORGIA

Long's Portrait Presented to Infirmary.—Dr. Joseph Jacobs recently presented to the Crawford Long Infirmary, on the campus of the University of Georgia, Augusta, a life size portrait of the late Dr. Crawford W. Long, discoverer of surgical anesthesia.

Control of Cancer.—A meeting was held in Atlanta, April 15, at which a campaign was initiated which will be waged by the medical men and club women of the state against malignant disease. Jarrett W. Palmer, president of the Medical Association of Georgia, presided, and the chief address was made by Frederick L. Hoffman, statistician for the Prudential Insurance Company.

State Association Meeting.—At the seventeenth annual session, held in Atlanta, April 16, 17 and 18, 1919, under the presidency of Dr. Jarrett W. Palmer, Ailey, the following officers were elected for the ensuing year: president, Dr. Edward G. Jones, Atlanta; vice presidents, Drs. William H. Hendricks, Tifton, and James M. Smith, Valdosta; secretary-treasurer, Dr. William C. Lyle, Augusta; delegate to the American Medical Association, Dr. Allen H. Bunce, Atlanta; alternate, Dr. Eugene E. Murphy, Augusta. Macon was selected as the place of meeting in 1920.

New County Officers.—At a meeting, April 15, held in Metter, the Candler County Medical Association was organized with Dr. Wallace D. Kennedy, Metter, president, and Dr. Buford B. Jones, Metter, secretary-treasurer.——Murray County Medical Society at its annual meeting at Chatsworth, March 3, elected Dr. Robert H. Bradley, president; Dr. Emmet H. Dickie, vice president, both of Chatsworth, and Dr. James E. Bradford, Spring Place, secretary.——Sumter County Medical Association, at its annual meeting, April 10, at Americus, elected Dr. Taylor Lewis, president; Dr. William S. Prather, vice president, and Dr. Joseph T. Stukes, secretary-treasurer, all of Americus.

ILLINOIS

New Officers.—At the annual meeting of the McLean County Medical Society, held in Bloomington, April 8, Dr. Watson W. Gailey, Jr., Bloomington, was elected president; Dr. Lyford M. Johnson, Arrowsmith, vice president, and Dr. A. Bernice Curry, Bloomington, secretary-treasurer.

Sanatorium to Be Constructed.—It has been decided to locate the DeKalb County Tuberculosis Sanatorium on the Marsh property between DeKalb and Sycamore on a site of 25 acres, which has been purchased for $16,000. The construction of the new institution will begin this summer.

Smallpox in Illinois.—In Kane and DuPage counties it is estimated that there are approximately 400 cases of smallpox. In Aurora alone there are said to be 74 cases. Kane County is reported as having 85 cases, Peoria County 62, Tazewell County 60 cases, Montgomery and Vermilion counties each 20, Madison County 18, and McLean County 15 cases.

Want Representation on Committee.—The Illinois State Medical Society, through its council, on April 16, adopted a resolution setting forth the provision of the civil administrative code for an advisory committee for the registered nurses, consisting of five persons, each of whom is a registered nurse in the state of Illinois, and setting forth further that the medical profession is chiefly concerned in the education, training and employment of nurses, and recommending the enactment into law, of Senate Bill No. 123, and House Bill No. 175, which bills provide for an equitable representation on this committee.

Health Promotion.—The work of organizing Illinois cities for the appropriate observance of health promotion week, from May 11 to 17, is already under way, backed by the enthusiastic support of Governor Lowden, Dr. C. St. Clair Drake, director of the state department of health, Springfield, and Walter D. Thurber, executive secretary of the Illinois Tuberculosis Association. The program includes a general clean-up, the eradication of breeding places for flies and mosquitoes, the holding of special exercises in schools and churches, the staging of community pageants and better baby conferences, and the exploitation of the various activities of the state and local health departments.

Illegal Practitioner Fined.—Arthur Earl Baker of 1212 South Adams Street, Peoria, was arrested by an inspector for the department of registration and education of the state of Illinois and fined $166 for practicing medicine without a license and for violating the pharmacy law. Arthur Earl Baker is the son of the late Dr. R. W. Baker of Peoria, who was a licensed physician in Illinois. Since the death of his father, Arthur Earl Baker has been practicing in Peoria on his father's license. Some years ago he made application for a license to the state authorities, but did not report for an examination. He has kept his father's name on his office door and has answered calls for "Dr. Baker." The son secured a narcotic license from the federal authorities in the name of his father in 1917, and used it in connection with writing prescriptions for, and dispensing narcotics to, his patients. The state authorities turned Baker over to the federal narcotic officials, and his case has been taken up with the Department of Justice at Washington.——Stefan W. Sobolewski of 1111 Marshfield Avenue, Chicago, was arrested by the Department of Registration and Education of the State of Illinois and fined $50 and costs for practicing medicine without a license.——Dr. William F. Bohannon of Peoria was also arrested and fined $25 on the same charge.

Chicago

New Hospital.—This month work will be begun on the addition to the Ravenswood Hospital at North Winchester and Wilson avenues.——A maternity hospital will be erected by the associated catholic charities in celebration of the seventy-fifth year of the creation of the catholic archdiocese of Chicago. The building will cost $100,000 and will accommodate 100 patients.

Violation of Drug Law.—Charged with having sold large quantities of morphin sulphate without a license, in violation of the Harrison Antinarcotic Law, Dr. Frank C. Howard is said to have been arrested, April 24, and held to the grand jury under bonds of $5,000.——George E. Thraites, colored, was arrested, April 16, charged with selling morphin to addicts and is held under bonds of $5,000.

Exchange of Clinical Assistants.—At a joint session of the Chicago Medical Society and Chicago Surgical Society, April 23, a plan was announced for the exchange of clinical assistants by surgeons and physicians of France and the United States. Major Dehelley of the French army opened the subject, and Dr. A. J. Ochsner, Chicago, stated that he had made arrangements for the exchange of clinical assistants with a French surgeon.

Personal.—William H. G. Logan, Col., D. C., U. S. Army, has returned after several months spent in France.——Dean D. Lewis, Lieut.-Col., M. C., U. S. Army, director of Base Hospital No. 13, at Limoges, France, for ten months, has been assigned to special duties at Fort Sheridan, Ill.——Maurice L. Blatt, Major, M. C., U. S. Army, has returned from military service and resumed practice.——Daniel L. Eisendrath, Capt., M. C., U. S. Army, has been released from military service and resumed practice, April 21.——Samuel J. Walker, Major, A. R. C., has been decorated by King Alexander of Greece, for valuable service rendered in relief work.

MARYLAND

Personal.—Dr. William H. Welch of Baltimore has been awarded the gold medal of the National Institute of Social Sciences. The presentation was made formally, in absentia, at the annual dinner of the institute on April 25 by Mr. Theodore Marburg. Dr. Welch is now abroad attending the Red Cross conference at Cannes, France.——Col. George Walker, Baltimore, of the American Expeditionary Forces and a member of the staff of the Johns Hopkins Hospital, is now attending the conference at Cannes, called by the committee of the Red Cross societies, which convened April 1.——Lieut.-Col. Lewis J. Rosenthal of Baltimore has returned home after twenty-three months' service overseas.——Major Alexander D. McConachie of Baltimore has arrived with Base Hospital Unit No. 202, from Brest, and is now with this unit at Camp Merrit, N. J.

Meeting of the Medical and Chirurgical Faculty.—At the one hundred and twenty-first annual meeting of the Medical and Chirurgical Faculty of Maryland, held April 22, 23 and 24, the following officers were elected to assume office Jan. 1, 1920: president, Dr. James E. Deets, Clarksburg; vice presidents, Drs. Arthur M. Shipley, Thomas R. Boggs and E. F. Jones; secretary, Dr. John Staige Davis (reelected); treasurer, Dr. Charles E. Brack; delegate to the American Medical Association, Dr. Randolph Winslow, Baltimore, and alternate, Dr. Lewellys F. Barker, Baltimore. An interesting program was given on the evening of the 24th, military night, when Major-Gen. Merritte W. Ireland, Surgeon-General of the U. S. Army, addressed the meeting and discussed the war problems that his department had met. He was followed

by Brig.-Gen. Francis A. Winter, commandant of the Army Medical School, who told of the work of the medical department in the line of communication of the American Expeditionary Forces. Recent developments of war surgery were discussed by Brig.-Gen. John M. T. Finney, Baltimore, who did notable work abroad, while Brig.-Gen. William S. Thayer, Baltimore, described his observations on the practice of medicine in connection with the American Expeditionary Forces. A notable incident at the opening of the sessions was the sending of a cablegram to Sir William Osler at Oxford, England, felicitating him on the approach of his seventieth birthday. Dr. Osler was a former president and ardent worker for the faculty. The final session was devoted to clinics at U. S. Army General Hospital No. 2, Fort McHenry,

NEBRASKA

New Hospital.—The bill in legislature providing for the erection of a hospital at the Soldiers and Sailors Home, Milford, at a cost of $100,000, has been recommended for passage.

Roentgenologists Meet.—The annual meeting of the Omaha Roentgen-Ray Society was held in Omaha, April 5, under the presidency of Dr. Anders P. Overgaard, Omaha. About 300 were in attendance and in addition to the program of papers, roentgen-ray clinics were held at St. Joseph's Hospital by Dr. Albert F. Tyler, Omaha, and at the University of Nebraska Hospital by Dr. Carl H. Ballard, Omaha. The evening session was devoted to the hearing of experiences from members who had served abroad.

Personal.—Dr. Charles Rosewater, Omaha, who has been seriously ill with pleurisy is convalescent.——Robert D. Schrock, major, M. C., U. S. Army, Omaha, one of the pioneer American surgeons in army service in France, has returned and is on duty at the Post-Graduate Hospital, New York City, in the orthopedic service.——Dr. Frederick A. Sedlacek, Omaha, has started for Siberia as a member of the Red Cross unit.——Dr. John H. Morrow, Merna, who underwent operation in an Omaha hospital recently for appendicitis, is reported to be in a serious condition.

NEW HAMPSHIRE

Personal.—Russell Wilkins, Major, M. C., U. S. Army, Concord, who is now on duty in France with the twenty-Sixth Division, has been promoted to lieutenant-colonel, M. C.——Dr. John H. Neal has been elected city physician and a member of the board of health of Portsmouth.

Hillsborough County Physicians Meet.—At the annual meeting of the Hillsborough County Medical Association, April 15, Charles E. Congdon, Major, M. C., U. S. Army, Nashua, at present in service in France, was elected president; Dr. Clarence O. Coburn, Manchester, vice president, and Dr. Timothy F. Rock, Nashua, secretary-treasurer (reelected).

NEW YORK

Personal.—Dr. W. T. Barger, Katonah, has gone to Vladivostok, Siberia, in the service of the American Red Cross.

State Society Meeting.—The one hundred and thirteenth annual meeting of the Medical Society of the State of New York will be held May 6 to 8, in Syracuse, under the presidency of Dr. Thomas H. Halsted, Syracuse.

New York City

Efficiency and Sanitation.—The address before the New York Academy of Medicine at its stated meeting, May 1, was delivered by Col. John R. Murlin, U. S. Army, on "Efficiency and Sanitation in the Feeding of the United States Army."

Personal.—Dr. Foster H. Kennedy, Keeneyville, N. Y., late major in the Royal Army Medical Corps, British Expeditionary Forces, has returned to this city and resumed his practice.——Dr. James T. Pilcher has been mustered out of service with the United States Army and has resumed his practice in Brooklyn.——Dr. John L. Baker, Brooklyn, has been elected first vice president of the Fulton Street Board of Trade.

State Narcotic Commission Begins Work.—The New York City branch of the state narcotic commission has opened offices in the Health Department Building and announces that narcotic clinics will be opened in this city and throughout the state, one having already been opened at Albany. The New York City health department will not open any more drug clinics, but will continue the work of the clinic recently established at 145 Worth Street. In the short time that this clinic has been in operation it has treated 3,931 patients, an average of 700 a day.

NORTH CAROLINA

Boards of Trustees Consolidated.—At the recent session of the legislature, the special boards of trustees for the different state hospitals were abolished and a single board of eleven members was created. Of these, two are clergymen, two editors, one woman, and a banker and five business men. No physicians were appointed on the board. At its meeting for organization at Raleigh, Joseph G. Brown, Raleigh, was elected chairman, and R. R. Clark, Statesville, secretary.

State Hospital Association Meeting.—The annual meeting of the North Carolina State Hospital Association was held in Pinehurst, April 6, under the presidency of Dr. Jacob F. Highsmith, Fayetteville. An earnest effort is being made by the organization to standardize the hospitals of the state and their schools for training. The following officers were elected: president, Dr. John P. Munroe, Charlotte; vice presidents, Drs. J. T. Burrus, High Point, and Elijah T. Dickinson, Wilson, and secretary-treasurer, Dr. John Myers, Charlotte.

State Board Salaries.—At the annual business meeting of the state board of health the payment of salaries on the following basis was arranged: secretary, $5,000; director of hygiene laboratory, $4,000, with an increase of $50 each year, up to a salary not to exceed $4,500; chiefs of bureaus, expending less than $25,000, a salary of $2,500, with an increase of $50 each year, to a maximum salary of $3,000; and chiefs of bureaus expending over $25,000, a salary of $3,000, with an increase of $50 for acceptable services, up to a maximum of $3,500.

State Society Meeting.—The sixty-sixth annual session of the Medical Society of the State of North Carolina was held at Pinehurst, April 15 to 17, under the presidency of Dr. Cyrus Thompson, Jacksonville, the subject of whose address was "Art of Living." It was decided to hold the next meeting at Charlotte, and the following officers were elected: president, Dr. Carl V. Reynolds, Asheville; vice presidents, Drs. Herbert D. Walker, Elizabeth City, F. Stanly Whitaker, Kingston, and Thomas I. Fox, Franklinville; secretary-treasurer, Dr. Benjamin K. Hays, Oxford, and delegates to the American Medical Association, Dr. Chase P. Ambler, Asheville, and Hubert A. Royster, Raleigh

Personal.—William L. Dunn, Lieut.-Col., M. C., U. S. Army, Asheville, has returned from service overseas, and resumed practice.——Dr. Percy Ahrons, Raleigh, has been elected health officer of Wake County.——Charles O'H. Laughinghouse, Lieut.-Col., M. C., U. S. Army, Greenville, who recently returned to the United States, was presented with a gold hunting case watch, by members of his Base Hospital Unit No. 85.——John T. Burrus, Lieut.-Col., M. C., U. S. Army, High Point, who commanded a base hospital at Camp Beauregard, La., has returned home.——Drs. Cyrus Thompson, Jacksonville, and Fletcher R. Harris, Henderson, have been reelected members of the state board of health for terms of six years.

Health Officers Meeting.—The ninth annual session of the North Carolina State Health Officers Association was held in Pinehurst, April 14, under the presidency of Dr. J. Rufus McCracken, Waynesville, whose address was on "What the State Is Doing for Its Unfortunate." Dr. James A. Keiger, U. S. P. H. S., spoke on the venereal disease work, and Dr. Watson S. Rankin, Raleigh, secretary of the state board of health, reviewed the "Control of Diphtheria." The afternoon session was held in the Eureka Farm Life School, and at the evening session Charles O'H. Laughinghouse, Lieut.-Col., M. C., U. S. Army, Greenville, spoke on overseas observation of public health. Dr. Everett F. Long, Lexington, was elected president; Dr. Carl V. Reynolds, Asheville, vice president, and Dr. George M. Cooper, Raleigh, was reelected treasurer.

PENNSYLVANIA

Personal.—Dr. George K. Strode, Harrisburg, has been appointed assistant chief health inspector of the department of health of Pennsylvania.

Osteopath Bill Defeated.—The Goehrings bill giving osteopathic practitioners the same authority in hospitals as medical men was defeated in the house, April 22, 126 by 23.

Quarantine Laws to Be Revised.—Dr. Edward Martin, state commissioner of health, proposes sweeping changes in the present quarantine laws. General revision of the quarantine

laws will be introduced in the legislature during the coming week. Defects in the present laws were apparent during the recent influenza epidemic and the proposed act offers a means of preventing a reoccurrence of such conditions as occurred in Pittsburgh and Lancaster last fall. The new act will give the department of health the needed authority to cope with all contagion, as considerably more power is vested in the commissioner and the advisory board. There will also be a drastic act making it a misdemeanor to transmit social diseases and the health authorities will be given permission to send to detention hospital chronic carriers of such disease. Endorsement is also given to a bill prohibiting publication of advertisements of venereal disease cures.

Philadelphia

Personal.—Lieut.-Col. William E. Ashton, M. R. C., who served with the Three Hundred and Ninth Field Artillery through all the operations of the first army, has returned and is at Camp Dix awaiting discharge.——Major Henry C. Earnshaw, M. R. C., who served twenty-two months in the Army, first with Base Hospital No. 10 and then with American Sixth Army Corps as a medical consultant, has returned to his home in Bryn Mawr.

TENNESSEE

Donation to Meharry College.—The Carnegie Foundation and the general education board of the Methodist Church have each offered a gift of $150,000 to the Meharry Medical College, Nashville, conditioned on the raising of an additional $200,000 by the Freedmen's Aid Society of the Methodist Episcopal Church and the trustees and friends of the college, the latter fund to be used for endowment only.

Personal.—Perry C. Wilkes, for several years superintendent of the Baptist Memorial Hospital, Memphis, has been promoted to chief manager of the institution, and Sidney G. Davidson of the Good Samaritan Hospital, Philadelphia, has been appointed his successor.——Dr. William E. McCampbell, Nashville, was seriously injured when his automobile was overturned, March 20. He sustained fracture of the clavicle and of several ribs.

State Association Meeting.—The eighty-sixth annual meeting of the Tennessee State Medical Association was held in Nashville, April 8 to 10, under the presidency of Dr. Richmond McKinney, Memphis, and the following officers were elected: president, Dr. Andrew F. Richards, Sparta; vice presidents, Drs. Julius C. Brooks, Chattanooga, Nicholas S. Walker, Dyersburg, and Albert W. Harris, Nashville; secretary, Olin West, Nashville, reelected, and treasurer, Dr. Joseph F. H. Gallagher, Nashville reelected. Chattanooga was named as the next place of meeting.

Hospital Items.—The county court of Madison County at an adjourning session, April 13, appropriated $1,000 for the maintenance of a civic league hospital, Jackson, the city giving a like amount.——Excavation work has commenced on the Methodist Hospital, Memphis, which is to be erected at a cost of $350,000. The corner stone will probably be laid late in May.——Giles County is about to issue $25,000 in bonds to secure money with which to build a hospital in the county as a memorial to the men who served in the European war.——An addition is to be built to the Baptist Memorial Hospital, Memphis, to cost about $250,000. This addition will house a nurses' training school and home.——The new Protestant Hospital, Nashville, was opened to receive patients, March 22. The institution has been built at a cost of $250,000 and will accommodate 100 patients.

CANADA

Osteopath Bill Rejected.—The bill the osteopaths submitted, or intended to be submitted to the Quebec legislature, did not reach that body, for it was thrown out in committee. The medical profession took the stand that osteopaths should qualify under the same conditions necessary for all specialists to obtain legal recognition.

Association News.—The eighth annual meeting of the Canadian Public Health Association will be held in Toronto, May 26 to 28, and it will be a joint congress with the Association of the Officers of Health in Ontario.——The annual meeting of the Canadian Medical Association will be held in Quebec City, June 25 to 27. Dr. Jasper Halpenny, Winnipeg, will deliver the address in surgery.

Hospital News.—A home for the deaf and dumb has been decided on by the Manitoba government. The cost will be $500,000, and it will be located in Winnipeg.——Saskatchewan will shortly commence the erection of another hospital for the insane in the southern part of the province. The cost will be $250,000, and $155,000 has also been set apart for additional buildings at the existing hospital for the insane at Battleford.——The total cost of the sanatorium to be built by the dominion government and the government of Alberta near Calgary will be $460,000, of which the dominion government will pay $260,000. The entire plant will become the property of the province in five years.

Ontario Medical Council Bill.—A bill to provide for the reorganization of the Ontario Medical Council has been introduced into the Ontario legislature. It will provide for an advisory medical committee to deal with all questions affecting the practice of medicine in that province. By this new measure the council will be composed of a member from the University of Toronto, in addition to two named by the senate thereof in lieu of affiliated Trinity and Victoria colleges; one each from Queen's, Ottawa, and Western universities, and every university, college or body in Ontario that may hereafter be authorized to grant degrees in medicine and surgery; two members elected by the licensed practitioners in homeopathy; and eight members elected by registered members of the profession other than those mentioned above. This will provide for eight new electoral districts. All regulations of the council are hereafter to be subject to the approval of the government, and the latter has power to overrule the decisions of the council, which might refuse registration to graduates to any university, college, or other body in Canada having power to grant certificates of qualification for the practice of medicine. The council will have power to suspend a member for any period deemed proper. The Advisory Medical Committee shall consist of three members appointed by the government. This committee will have extensive powers, including the consideration of proposed legislation, regulations, by-laws, relating to medical education, the inquiry into the progress of medical education in Ontario and elsewhere, the recommendation of courses of study, clinical work, scientific research, etc., and also the investigation of new drugs, methods of treatment, etc., and the conducting of experiments and tests thereon. This act is to come into force, July 1, 1919.

LATIN AMERICA

Medical Teaching in Honduras.—During the year 1918, among the students graduated in the Republic of Honduras were six physicians, three druggists and two dentists.

Medical Students in Peru.—According to the report of the rector (president) of the University of Lima for the year 1918, there were in that year 1,471 students at the university, 567 of whom belonged to the school of medicine.

Hospital Physicians Organize in Lima.—There has just been organized at Lima, Peru, an association of hospital physicians, the officers of which are Dr. E. Odriozola, president, and Drs. J. Arce, C. A. Bambarén and C. A. Zevallos.

Mortality in Lima.—For the first time in a number of years, during the year 1918 the deaths exceeded the births in Lima, Peru, the numbers being respectively, 6,575 and 6,271. The disease which caused most deaths was tuberculosis.

Additions to Hospitalr in Brazil.—At the Hospital Portugués of Recife, one of the oldest hospitals in Brazil, there are now in process of construction important additions which will provide the institution with new operating rooms, laboratory, etc.

Quarantine Stations in Venezuela.—According to recent presidential decrees in Venezuela, there will soon be begun the construction of an isolation hospital in the vicinity of Caracas and of two quarantine stations at the two ports of La Guayra and Puerto Caballo.——The president has just approved the vaccination regulations adopted by the national bureau of hygiene.

Reorganization of the Board of Health of Ecuador.—By a recent decree issued by the president of Ecuador, the supreme board of health is reorganized into five divisions, namely, (1) bacteriology, vaccination, and inoculation; (2) sanitation of ports and boundaries, epidemics and epizootics; (3) departmental and municipal hygiene; (4) sanitary engineering, statistics and legislation; (5) legal. The board is composed of Dr. Juan C. Segovia, president, and Drs. R. V. Castro, S. Calderón, P. S. Fonseca and L. Montalvo.

Sanitation in Haiti.—According to the report just rendered by the chief of sanitation of Haiti, Dr. M. T. McLean, the reorganization of the sanitary service in Haiti begun in August, 1915, by several physicians of the U. S. Navy, has

made satisfactory progress. The sanitary conditions have improved remarkably, especially in the north and south; there are three hospitals doing very good work, a satisfactory garbage system is in operation at the capital, and it is expected that, as soon as the financial situation permits, universal vaccination, and the segregation of lepers may be enforced.

Reorganization of the Health Service in Chile.—On Jan. 1, 1919, a law went into effect in the Republic of Chile providing for the reorganization of the health service which is to be hereafter under a director general of health to be appointed by the president from a list of eligibles presented by the scientific bodies of the republic. There will also be an advisory council of hygiene and an institute of hygiene. There is also to be established a system of regional sanitary service in charge of zone sanitary inspectors, who must be graduates of medicine and must have had at least three years of practice. The first director of public health is Dr. R. Colbarán Melgarejo.

GENERAL

Roentgenologists to Meet.—The twentieth annual meeting of the American Roentgen-Ray Society will be held in Saratoga Springs, N. Y., September 3 to 6, under the presidency of Dr. David R. Bowen, Philadelphia.

Meeting Postponed.—The secretary of the American Public Health Association announces that the annual meeting of this association at New Orleans, which was to have been held October 6 to 9, will be held October 27 to 30.

Health Conference.—A meeting of the health officials of Alabama, Louisiana, and Mississippi was held at New Orleans, April 12, at which the chief topic of discussion was coordination of health activities in the three states.

Flight Surgeons to Meet.—The annual meeting of the National Association of Flight Surgeons, which includes all medical officers in air service of the United States Army, will be held in Atlantic City, N. J., during or immediately preceding the meeting of the American Medical Association.

Sanitarians to Meet.—The seventh annual meeting of the Southeastern Sanitary Association, composed of physicians and sanitarians of the states of Virginia, the Carolinas, Georgia, Tennessee, and Florida, will be held in Rome, Ga., May 13, under the presidency of Dr. Romulus L. Carlton Winston-Salem, N. C.

Luminal Now Available to Physicians.—The Committee on Synthetic Drugs of the National Research Council announces that Luminal is being distributed by authority of Mr. Francis P. Garvan, Custodian of Alien Property and president of the Chemical Foundation by arrangement between Merck & Co. and the owners of the Bayer Co. Physicians interested who cannot secure it from local dealers should communicate with the Bayer Company or with the Chemical Foundation, 110 West Forty-Second Street, New York City.

Society for Epileptics to Meet.—The National Association for the Study of Epilepsy, which is affiliated with the International Liga contra l'Epilepsie, and whose object is to promote the pathologic, therapeutic, social and medicolegal study of the epilepsies, will hold its annual meeting at the Craig Colony for Epileptics, Sonyea, N. Y., June 6 and 7, under the presidency of Dr. William T. Shanahan, Sonyea. The program will be carried out in the three aspects of scientific medical, social and institutional, and interspersed will be clinics and demonstrations of the colony régime by members of its medical staff.

Conference of Social Work.—The forty-sixth annual meeting of the National Conference of Social Work, will be held at Atlantic City, June 1 to 8, under the presidency of Miss Julia C. Lathrop, Washington, D. C. The chief theme of the conference division on health is to be "Health and Standards of Living," and will be considered under the following topics: housing, family food supply, tuberculosis, medical and nursing care, infant mortality, industrial hazards, and venereal disease. Drs. William H. Welch, Baltimore, and Luther Emmett Holt, New York City, will participate in a discussion of the new health program of children for school aid. Other topics for discussion are: illegitimacy, day nursery, the girl problem, public aid for mothers, handicapped soldiers, state care of mental disease, and health insurance.

Bequests and Donations.—The following bequests and donations have recently been announced:

Rush Hospital for Consumption and Allied Diseases, Philadelphia, $3,000; publication fund of the College of Physicians and Surgeons, Philadelphia, the Mutual Aid Association of Philadelphia, and County Medical Society each $500, by the will of the late Dr. James Tyson.

Jewish Hospital for the maintenance of a home for aged and infirm, and the University of Pennsylvania the residue, after the payment of bequests, for the establishment, maintenance and equipment of a ward in the hospital as a memorial to her husband, Abraham H. Wolfe, for the benefit of persons supposed to be incurable, by the will of Merriam H. Wolfe. In the event of the failure of the trustees of the University of Pennsylvania to accept this gift within a period of three months, the fund reverts to the Mount Sinai Hospital for the same purpose.

For the erection of a hospital in Baltimore, one third of the estate valued at nearly $5,000,000 of Thomas O'Neill, Baltimore.

Maternity Hospital, to stand as a memorial to the testator's wife, Alice T. Lanning, $40,000, and the Lanning residence to the Mary Lanning Hospital Trust to be used perpetually for the benefit of the Mary Lanning Memorial Hospital as a home for nurses, and $10,000, the interest of which is to be used in keeping in good repair the Lanning residence and lot, by the will of W. H. Lanning.

Agatha Hospital, Clinton, Iowa, $200,000 for the erection of an addition to the hospital in memory of her mother, Mrs. Jane Lamb, a donation from Mrs. Young. The hospital will hereafter be known as the Jane Lamb Memorial Hospital.

Clarence Barker Memorial Hospital, Biltmore, N. C., $50,000 by the will of Mrs. Virginia Purdy Bacon.

Conference on Child Welfare.—The Children's Bureau of the United States Department of Labor has arranged for a series of conferences on child welfare to be held in various sections of the United States during May and June. The conferences will be preceded by a meeting at Washington during the week of May 6 which will be attended by the foreign guests, and a small working committee of American experts and members of the staff of children's bureau. Among the foreign guests expected are Sir Arthur Newsholme, chief medical adviser of the British Local Government Board, who has been largely responsible for the work resulting in lowering of the infant death rate during the war; R. C. Davison of the Juvenile Labor Exchange, London; Mrs. Eleanor Barton of the Woman's Cooperative Guild, an organization of the British workingmen which has helped to secure increased national protection for mothers and babies; Mlle. Valentine Thompson, chief of la vie féminine; Monsieur Pierre Hamp, of the French Ministry of Labor and a well-known authority on education and child labor; Dr. C. Mulon, who was in charge of the crèches maintained by the French government during the war for the children and women employed in the munitions factories, will present the French experiences in child welfare work, and the Belgian representatives will be Dr. Réné Sand, professor of social and industrial medicine in the University of Brussels, and Mme. Henri Carton de Wiart, who has been much concerned with the care of Belgian refugee children during the war.

FOREIGN

German Deaths from influenza.—According to estimates made in articles published in German medical journals of recent date, 400,000 deaths have been caused by influenza in Germany during the last eighteen months.

Ducrey Called to Rome.—Prof. A. Ducrey of the chair of skin diseases and syphilis at the University of Genoa has been called to Rome to the similar post left vacant by the death of Professor Campana. Besides the discovery of the streptobacillus of chancroid, Ducrey has published numerous works on various skin diseases.

Urologists Organize in France.—The urologists of Paris and the provinces have recently organized the Société d'Urologie, with Guyon as honorary president; Legueu, president for 1919; Carlier of Lille vice president, and Nogués secretary. Meetings are to be held monthly, except during August, September and October, at the hôpital Necker.

Congress of Medical History.—It is reported that a congress on the history of medicine is to be organized for 1920 at Antwerp. This is to do honor to the fiftieth professional anniversary of Dr. Broecke, the first medical historian of Belgium, and at the same time to celebrate the three hundredth anniversary of the foundation of the "Medical Circle" of Antwerp, which dates from 1620.

Warning Against Medical Career.—The *Nederlandsch Tijdschrift* quotes a Munich exchange to the effect that the Leipziger Verband has issued an appeal to the pupils in the preparatory schools warning them against selecting the medical profession on account of the present outlook for physicians. It advises them to take up some other career, possibly the study of dentistry rather than medicine.

Medical Missionaries in Prison.—Four American medical missionaries in Seoul, Korea, Drs. John Thomas, C. R. Avison, J. I. Ludlow, and J. W. Herst, are reported to have been arrested by Japanese, about April 9, in connection with

the Korean revolution early in April. The gendarmes took from the Severence Hospital at Seoul, three Korean patients suffering from gunshot wounds inflicted by the police. The state department is investigating this incident.

Medical Unity for Turkey.—The American Women's Hospital, which is maintaining a hospital at Luzancy, France, a chain of dispensaries in the Soissons and Chateau-Thierry region, and a hospital in Serbia in conjunction with the American Red Cross, has started a campaign to raise $250,000 to be spent in the Near East. A unit of six doctors has been selected who will be stationed in Aleppo. They will be the first women to be put in charge of a hospital in the Turkish domain.

Death of Hallopeau.—One of the masters who have made French dermatology famous, Prof. H. Hallopeau, has just died, aged 77. It was expected that he would be the logical successor of Fournier after the death of the latter, but he missed it by the merest chance, and had the title only of *professeur agrégé* until his retirement. He first described several forms of skin disease, notably dermatitis vegetans, and his research on the abortive treatment of syphilis, his works on leprosy, and his treatises on dermatology and general pathology have carried his name far. Visitors to the hôpital Saint-Louis long remember his kindly and distinguished appearance. Since his retirement on reaching the age limit he has been devoting himself to the care of the paupers in the Maison départementale at Nanterre until his sight gave out.

BUENOS AIRES LETTER

BUENOS AIRES, March 29, 1919.

Inauguration of the School Years

The courses of the school of medicine began on March 20. The dean, Dr. Julio Méndez, read an address expressing his views in regard to medical teaching. Because of certain criticisms of the behavior of professors he was asked for an explanation, and a motion was presented to the board of directors of the school for an investigation of the matter, but the dean stated that his remarks were of a general character and had no application to the staff of the medical school of Buenos Aires.

Closing of the Port of Bahía Blanca

In the Cámara de Diputados (house of representatives) there was some discussion apropos of the closing of the port of Bahía Blanca, the third in importance in the country, by the national department of hygiene, which does not have at that harbor the necessary materials for the disinfection of ships engaged in foreign commerce. The criticism is based on the fact that it does not seem very good policy to close the harbor for the lack of a few stoves and create serious disturbances to commerce at the very moment when the port of Buenos Aires is closed because of a strike.

Influenza

Some patients with influenza have again arrived on ships from Europe, and there have appeared a few small foci in the city of Buenos Aires, but so far no epidemic has occurred.

The Sociedad Médica Argentina

This organization, which is the most important medical society of the country, has just installed itself in a beautiful building of its own, located at number 1171 Santa Fe Street.

The Asistencia Publica

The Asistencia Pública of Buenos Aires is in charge of the treatment of patients in the capital and also of many patients from other parts of the country. The municipal budget proves therefore occasionally inadequate, especially now when the new budget has not been approved. To obviate this inconvenience and collect funds for the maintenance of the hospitals, there has been formed a commission to obtain voluntary subscriptions and gifts of objects which will be auctioned for the same purpose.

Second Antituberculosis Conference

During the next month of September, there will take place in the city of Rosario the second antituberculosis conference, the organization of which is in charge of a commission presided over by Dr. Clemente Alvarez. The work performed by the commission indicates that the conference will meet with success, and it has already been decided to give popular lectures and to hold an exhibition, which has been offered all possible support by the national and provincial governments, the large municipalities, the national department of hygiene, and the five antituberculous leagues in existence in this country.

Poisonings by Star Anise

During the last four months there have been numerous cases of poisoning in children, due to the use of false star anise from Japan, *Illicium religiosum*. The number of deaths is estimated at thirty. The product was introduced through the custom house and distributed extensively to all drug stores, which made it necessary for the national department of hygiene to confiscate all the anise of both the true and the mock varieties. The most common symptoms have been convulsions and rigidity of the limbs.

Laboratory of the National Department of Hygiene

After being at work for one year, the technical personnel of the Instituto Bacteriologico has been reappointed in a recent decree reorganizing the institution. The sections and the individuals in charge are: hygiene, Dr. Carbonell; plague, Dr. Uriarte; serotherapy, Dr. Sordelli; physics and chemistry, Dr. Wernicke; experimental physiology and pathology, Dr. Houssay; medical zoology, Dr. Bachmann, and parasitology, Dr. Wolffhugel. Dr. Bachmann has been engaged at a salary of $1,500 and an allowance of $100 a month, and has been designated for a mission abroad.

Disease of Horses

During the last few years, there had been observed on different occasions the appearance of epizootics among horses, sometimes localized and sometimes very extended. The last began about a year ago and went through different changes, although finally it extended to practically all the country, causing a large mortality. The technicians of the department of agriculture attributed the outbreak to a food intoxication, although without presenting any data in support of their views. The investigations of Dr. C. Flores (*Semana Méd.*, Feb. 27, 1918) revealed that a brain emulsion injected through the carotid reproduced the disease. Dr. Kraus has demonstrated that the brain of the horses affected, when inoculated into the brain of rabbits, produces a fatal disease, and that from the brain of the latter, there are obtained cultures of a diplococcus, which, when injected cerebrally into horses, produces the symptoms of the disease. The anatomicopathologic lesions correspond to those of Borna's disease.

CUBA LETTER

HAVANA, April 24, 1919.

Public Health Instruction

The Department of Sanitation is starting a new campaign of public health instruction among the poor classes of Cuba. A number of physicians and hygienists of that department will deliver addresses and give conferences in all the large factories and other places where large bodies of working people gather; the subjects will be hygienic living quarters, proper food and ventilation and prevention of diseases.

The Spanish Edition of the Journal

The physicians of Cuba have welcomed most enthusiastically the Spanish edition of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. It will be of great aid to the non-English speaking physicians and will surely bring into closer contact the people of Latin America and North America. It is a queer fact that until 1900 the physicians of Cuba, as well as of the other Latin countries of this continent, turned their eyes to Europe and specially to Paris as the Mecca of medical education, and many French editors published Spanish editions of their journals. Today we know what we can get in the United States and are glad to have so near to us some of the most wonderful institutions in the world. In our judgment, the publication of the Spanish edition of THE JOURNAL is one of the greatest steps ever taken by the Americans in their campaign of scientific and commercial propaganda through the Central and South American countries. We congratulate the American Medical Association on their happy idea.

New Building for the Red Cross

The work on the new building of the Cuban Red Cross has already begun; it will be located in the central avenue of Havana, the old Prado or Paseo de Marti, and the total cost of the building is estimated at $1,000,000.

Epidemic Lethargic Encephalitis

No cases of this disease have been officially reported yet, although some have been given as suspicious. The board

of health has sent a circular to all physicians urging them to report at once any case showing symptoms of paralysis and coma. The article on "Epidemic Encephalitis" by Peter Bassoe, M.D., which appeared in the last Spanish edition of THE JOURNAL, has had a wide circulation.

Personal

Dr. Max Einhorn of New York visited Havana last month, giving a lecture in the Academia de Ciencias Medicas on a new method of investigating the motility of the intestine.

Drs. A. Inclan and F. Leza have been appointed assistants in orthopedics and laboratory diagnosis, respectively.

Drs. J. Ramírez Olivella and E. de Aragon are the editors of the new *Revista de Obstetricia y Ginecologia.*

PARIS LETTER

PARIS, April 3, 1919.

International Red Cross Conference

In order to determine on a definite line of action, the Comité des Sociétés de la Croix Rouge extended invitations to the most renowned specialists of the world to take part in this conference which convened at Cannes, April 1. Dr. Roux, director of the Pasteur Institute of Paris, was unanimously elected president. At the first session, Dr. Henry P. Davidson, president of the war committee of the American Red Cross, stated that the object of the conference was to organize a central committee for all the national Red Cross societies, this central board to sustain and direct the efforts of the various national societies so as to keep before the world the importance of hygiene, good health and measures for public safety. Each society is to maintain its independence, the central committee merely coordinating their efforts. At the second session, Colonel Strong of the American Army, and Dr. Biggs of New York, outlined the plans for the creation of the permanent international bureau. The work of this conference will be reported to a congress of all the Red Cross societies to be held in Geneva thirty days after the declaration of peace.

An American Hospital at Reims

The national American executive council for French wounded has decided to erect a hospital at Reims, for which purpose $100,000 have already been collected. The families of American soldiers who died in France will be asked to contribute to and take an interest in this hospital in memory of their sons who fought by the side of the French soldiers. This hospital will be turned over to the city of Reims on its completion.

Replacing the Physicians in the War Devastated Regions

The ministre des régions libérées has informed the physicians who formerly were resident in the war devastated zones that to enable them to return to their former place of residence as quickly as possible, they will be awarded a monthly indemnity of 500 francs for a period of two years, irrespective of any other allowance which they may receive for participating in the Services publics d'assistance et d'hygiène, especially in the Assistance médicale gratuite. Furthermore, these doctors will each receive a maximum advance of 10,000 francs, to be charged to their indemnity for damages sustained through the war, so that they can rehabilitate themselves and provide necessary equipment for professional work.

Franco-American Friendship

For the purpose of celebrating the second anniversary of the entrance of the United States into the war, the University of Lyons recently entertained, in the large amphitheater of the faculty of law and of arts, the 400 American students who are attending the various faculties of the city. All of the professors of the Lyons university assisted at this function.

Swiss Physician Decorated

Dr. Baup of Switzerland, medical director of Evian-les-Bains, has been made chevalier in the Legion of Honor for services rendered during the war to the repatriates.

Personal

At the meeting held April 1, the Académie de médecine elected M. Forneau, chef du service de chimie at the Institut Pasteur, a member of the section on pharmacy. At the meeting of April 8, Dr. Sergent, physician to Paris hospitals, was elected a member of the section of medical pathology. Dr. Yersin, director of the Pasteur Institute of Nha-Trang (Indochina), and Dr. Delagenière of Mans were elected national associates.

MADRID LETTER

MADRID, March 8, 1919.

The Social Movement Among Spanish Physicians

During the whole month of February and the few days that have elapsed of the present month, the medical event of the day has been the movement which has received its chief impulse from the assembly of the boards of directors of the *Colegios Médicos* (medical guilds) of Spain.

The *Colegios Médicas* are guilds which have had their ups and downs until recently when the government ordered the so-called *Colegiacion Obligatoria,* which means that it is obligatory for every physician in exercising his profession to belong to a *Colegio* (guild) which apportions the taxes among all its members, and must attend to all professional activities, as bill collecting, cases of illegal practice and quackery, interpretation and violation of sanitary laws, etc. The Boards of Directors of the *Colegios Médicos* (medical guilds) are elected by the physicians themselves, and are supposed to represent the social and professional aspirations of their profession. There is a *Colegio* in each of the forty-nine provinces of Spain.

In response to a call issued by the boards of directors of the *Colegio de Médicos* of Madrid, a meeting was held in the capital from the 27th to the 29th of January by the representatives of the boards of directors of thirty-three provinces and in addition ten others sent in their adhesion to the movement, thus forming a total of forty-three out of the forty-nine provinces in Spain.

In order to avoid all that might give any *Colegio* too much importance over the others, there was chosen for president of the assembly the president having the longest service among those present, Dr. Martín Istúriz of Palencia. The sessions were devoted almost entirely to comment on the motion presented by the accounting officer of the *Colegio de Médicos* of Madrid, Dr. Velasco Pajares. On the 29th the closing session was held, when the proceedings were approved, and there were adopted the following conclusions that summarize the so-called minimum program of the medical profession:

RESOLUTIONS OF THE ASSEMBLY OF MEDICAL GUILDS OF SPAIN

The Assembly of the *Colegios Médicos* of Spain has voted the following conclusions:

First: The medical profession considers as the minimum program of its aspiration for immediate realization:

1. Payment by the national government of the city and court physicians (coroners), and health officers.
2. That city physicians be made also health officers.
3. That the question of the pensions to widows and orphans of physicians who were victims of the influenza epidemic be decided immediately without red tape delays.
4. That the national government shall guarantee the salaries of physicians employed in medical relief by the provincial governments.

Second: In order to bring about ends which are considered a matter of mere justice, all necessary means will be employed; and for this purpose, there is appointed an executive committee with offices in Madrid, consisting of Drs. Almarza, Piga, Velasco Pajares, Coca, Albiñana, Criado y Carro to act in agreement with the chairmen of all the provincial *Colegios Médicos,* so that a common action will be exercised in so far as the authorities are concerned, in order to obtain the granting of the just claims of Spanish physicians.

The *Colegios Médicos,* which constitute the legitimate representation of the profession, wish to obtain wider powers which will primarily be of benefit to the public health of Spain. It will be of their incumbency to submit lists of eligibles to fill vacancies for city physicians and health officers, from which lists the city councils shall appoint their physicians. They will have charge of the administration of the funds for the asylum for physicians' orphans, and of filling vacancies in the institution; they will have free mailing privileges which will facilitate the relations of the *Colegios* with official organizations and with their members; they will prepare lists of the physicians who have to form part of the draft boards and of all those forming part of official organizations who are now appointed on political grounds; and they will also have a direct representation in the organization of the sanitary services of their respective provinces to avoid the interference of politics in sanitary work.

The Assembly of the *Colegios Médicos* depends, for carrying out this minimum program, on the cooperation of all medical organizations which are ready to carry out the measures now in preparation by the executive committee, that will assume a radical form in case no assurances are received before March 15 that the government is in sympathy with the purposes of the medical profession of Spain.

THE EXECUTIVE CENTRAL COMMITTEE

The Executive Central Committee is composed of physicians belonging to the board of directors of the *Colegios Médicos* of Madrid and of editors of medical journals, the subscribers of which are chiefly rural physicians or city

physicians in small communities. Thus we find the name of Dr. Albiñana, editor of the journal, *La Sanidad Civil*, who, a few days before, had organized a conference with 300 physicians present and more than 7,000 adherents, and that of Dr. Almarza, director of the *Boletin de la Asociacion de Médicos Titulares*, the meeting of which society followed immediately that of the boards of directors of the *Colegios*. At these two meetings, the same memorials and recommendations were approved. In order to secure joint action, editors of these two journals were incorporated in the central committee.

THE MEMORIAL TO THE KING

On the invitation of the president of the *Colegios de Médicos* of Madrid, Dr. Ortega Morejón, there was a meeting, February 30, of the representatives of the *Colegio Médicos* with the sole exception of those of the four provinces of Catalonia. At this meeting, those attending decided to insist on their program, exhausting every possible argument with the government before adopting a rebellious attitude, although if no attention is paid to their demands, they will, as a last resource, decide on a strike.

Those attending the three assemblies enumerated before, addressed a message to the king, in which special stress is laid on the fact that municipalities owe physicians at the present time more than twelve million pesetas (about $2,400,000), and that twelve city physicians, 1,500 health officers and 500 court physicians cannot get justice done to their claims. The memorial ended appealing to the king to intervene in the matter in accordance with the constitution.

THE MEDICAL STRIKE IN SPAIN

All Spanish physicians have received a circular accompanied by a pledge to be signed by them, and a copy of the instructions which should govern the conduct of every physician in the collective action contemplated. The instructions are tantamount to ordering a strike, prescribing what court physicians should do to avoid performing their duties, and even going if necessary, to the extreme of resigning their positions, and requiring others to render medical assistance to the poor, only of their own free will and not as official duty, and making the patients acquainted with this fact.

This propaganda has yielded the logical results, and the physicians of Cartagena and of Jerez de la Frontera, as a protest against the nonpayment of their salaries, have decided not to take part in the medical work connected with the draft in their respective localities.

LONDON LETTER

LONDON, April 7, 1919.

Legislation to Forbid Vivisection of Dogs

A bill to prohibit any experiment of a nature to cause pain or disease to dogs, either with or without anesthetics, has been introduced into Parliament and is being considered by a standing committee. In opposing it, Sir Watson Cheyne asked the committee to realize the responsibility they were taking. He sympathized with the objects of the bill because he was a dog lover himself. Speaking as a surgeon who, for the last forty years, had almost every day had the life and health of patients in his hands, he said that he could not afford, with that responsibility constantly before him, to lose any possible source of information which might help him to carry out his work better. If the clause were passed, very great sources of information of the greatest value to the life and health of humanity would be denied to them. He could state definitely that every care was taken to see that no unnecessary suffering, and, indeed, he might say that no suffering, was caused to dogs by the experiments. Referring to the vivisection experiments conducted in connection with cancer investigation, he said: "If you pass this clause as it stands you may be the cause of the death of many people who would otherwise have lived. I implore you not to take that responsibility." Nevertheless the bill was passed through the committee stage by a majority of 17 to 13 votes.

In a letter to the *Times*, Sir Edward Schäfer describes the result as disastrous and as revealing an appalling depth of ignorance among our legislators. He points out that "the only sure basis of medicine is physiology, and physiology is absolutely dependent on the dog for knowledge which is to be directly applied to man. In this respect, no other animal can replace it; indeed, it is not too much to assert that almost all human physiology is based on information originally acquired from experiments on dogs. The immortal discovery of Harvey, from which physiology and with it medicine, as a science, date their real origin, was founded on experiments and observations on this animal. All modern knowledge of the action of the heart and circulation, of the functions of the brain and nervous system, of digestion, of external and internal secretions, of nutrition and metabolism, originated in and is based on experiments on dogs. The passage of such an act would completely arrest the progress of physiology in this country, which, since the time of Harvey, has always been in the forefront in regard to that science, more, perhaps, than any other. Dogs are already absolutely protected from suffering in any experiments which require to be made on them. No operation whatever can be performed on a dog without the express sanction of the home secretary; all operations must be conducted under complete anesthesia, and any dog suffering pain as the result of an operation must immediately be killed."

A State Medical Service: Sweeping Suggestions by the Labor Party

The Advisory Committee on Public Health, appointed by the labor party to consider the organization of preventive and curative medical services and hospitals and laboratory systems under a ministry of health, has reported in favor of the institution of a state medical service. The report stated that one of the most important duties to be undertaken by the ministry of health will be the reorganization of the whole mechanism of medical service, so that the greatest possible utilization is made of medical science, not merely for the treatment and prevention of disease, but for the inauguration of those systems of living, working, and enjoying leisure which experience and scientific research show to be capable of producing the greatest happiness for all. It is pointed out that while infant mortality has been greatly lowered by educational means in the last decade, nothing comparable has been done to extend the average expectation of life of adults.

The conditions of industrial life shorten life very markedly. The Registrar-General's decennial supplement shows that of those who survive over 15, the average period of life of purely industrial workers is 49.50 years; of purely agricultural workers, 67 years. The national service cards show that in certain occupations from 30 to 40 per cent. of the workers over 40 years of age are graded as unfit for military service. Insurance statistics show that in certain occupations from 30 to 40 per cent. may be unable to work for some period in each year owing to illness. The number of deaths from consumption is 700,000 a year, a destruction of life emulating that of the war. In large cities, such as Glasgow, 48 to 50 per cent. of the population live in one or two rooms tenements, and 50 per cent. of the children of the poor are found to be suffering from rickets. In Finsbury (a London district) the death rate per thousand of infants has been found to vary from forty-one in well-to-do parts to 375 in the slums. Venereal disease is widely prevalent, and fills hospitals and asylums with cases of disease which might be almost wholly prevented. The physician, having little opportunity to study or uphold the principles of preventive medicine, has failed to protest against industrial and housing conditions which have led to a most serious deterioration of national health and happiness.

So much of the physician's time is spent on the art of medicine, in visiting, humoring, and encouraging his patients, that too little remains for acquiring and practicing the science of medicine. Devoted attendance and kindly endeavor cannot make up for ignorance of the advancement of medical science, but they often cloak a failure to prevent illness and loss of working capacity, or to save life.

The report lays it down that a state service should be under democratic control, both at headquarters and at every local center. There must be nothing in the scheme to take away the choice of physician from the patient, but rather to widen and amplify the very restricted choice he now possesses. It must be the aim of the service to put every discovery of modern medical science, every class of specialist, every comfort of the best type of nursing home, sanatorium, and hospital within the reach of all, rich and poor. It must not prevent private practice, and no physician or patient must be forced to take any part or share in it against their desire. The present hospital and panel services must be radically reformed, and the coming service must not be bureaucratic, but one more resembling the chapters or lodge of a skilled craft. Each medical group, and not the single physician, would form the unit and would have the scientific laboratory for diagnosis and research, and the hospital and consultative center as its headquarters. Each unit would have control over its own local professional affairs, and be linked

up to all other units. Along with the local lay health committee it would be responsible for the health of the area it served. It would try to ensure that supplies of food were wholesome and adequate, and that adulteration and sophistication were prevented, that weakly individuals were not overworked when ill or requiring relaxation, that infected individuals were not infecting others, and that infants and young children were being reared in a sensible way and on suitable food.

THE CLINICAL AND SCIENTIFIC MEETING OF THE BRITISH MEDICAL ASSOCIATION

Special Correspondence

The special clinical meeting of the British Medical Association, which replaced the usual annual meeting, differed considerably from that function. It might be described as a war meeting, for the subjects discussed were all connected with the war, and among both audiences and speakers khaki predominated over civilian dress. It was an excellent idea to hold the meeting early in the year so as to allow the large number of medical officers from the dominions and the United States now in Europe to attend. Many of them are here for the special graduate courses which have been organized for their benefit. At every meeting and casual gathering the uniforms of these officers were in evidence among those of the predominant British. Though no new discovery of any importance was announced, the meeting was a great success from every point of view. It was well attended, the discussions were animated, and the large number of speakers from the dominions and the United States who took part in the discussions rendered it more representative of the medical knowledge of the English-speaking world than usual. The American officers expressed great approbation of the arrangements, and indeed surprise that so soon after the war the proceedings ran so smoothly. They were loud in praise of the hospitality and help they everywhere received. The large lecture rooms of the Imperial College of Science were well suited for the discussions and demonstrations, but they were often overcrowded, many of the audience having to stand, and at one of the surgical meetings the room was packed, so that late comers could not even enter. This was no doubt largely due to the reduction of the number of sections to three, as stated previously (The Journal, March 22, p. 880). The main object was to garner and compare the experiences of the war, but as these had been published during that long struggle there was no opportunity for novelty. However, the discussions and demonstrations were most instructive.

The Presidential Address

Instead of being delivered as usual, the address of the president, Sir Clifford Allbutt, was printed and distributed to members. He took for his subject "The New Birth of Medicine," which he discussed in his well-known philosophic vein and elegant diction, which place him alone among contemporary English writers. Age has not impaired that subtle intellect. He claimed that we met at the greatest moment in the history of medicine; not merely because this was a gathering of the physicians of commonwealths, dominions, colonies, and friendly nations, to consider the lessons of a great war; not only because the medicine of modern peoples and empires had vindicated its ascendancy in the greatest war of all time, but chiefly because at this moment it was revealed to us that medicine had come to a new birth, and in this regeneration had fought on no unequal terms with other arms in a glorious campaign. This new birth was nothing less than the enlargement of medicine from an art of observation and empiricism to an applied science founded on research; from a craft of tradition and sagacity to an applied science of analysis and law; from a descriptive code of surface phenomena to the discovery of deeper affinities; from a set of rules and axioms of quality to measurements of quantity.

War Neuroses

The discussion on this subject was introduced by Lieutenant-Colonel Mott. He said that in no previous war had such a vast number of men been disabled by functional nervous disease; but in no previous war had such conditions existed. They were the unprecedented exposure to the continuous physical effects of high explosives and poison gas and to all the developments of scientific barbarism. Moreover, the periods in which men had been exposed to the terrifying effects of modern trench warfare had exceeded all previous records. The conscripted army had included all sorts and conditions of men, and we had now found out what a large proportion of the male population of a highly civilized country possesses a neurotic or neuropathic predisposition. In 1917 it was calculated that one third of the unwounded and one seventh of the total discharges, including the wounded, were permanently unfit on account of functional nervous or mental diseases.

The war office authorities recognized three forms of war psychoneurosis—shell shock, hysteria and neurasthenia. The term shell shock led to much misconception. It was a natural conclusion, at first, that men who had been exposed to the unprecedented stress of bombardment should suffer from commotio cerebri. But a great many returned as suffering from shell shock would have been more appropriately designated "shell shy." It was extremely difficult to differentiate commotional shock from emotional shock, for both may be attended by unconsciousness and followed by hysterical or neurasthenic symptoms. Still there was no doubt that men suffered from commotional disturbance of the brain without any signs of injury on the body and were the subjects of organic changes, due to the forces generated by the detonation of high explosives. This was proved by the fact that the cerebrospinal fluid, withdrawn by lumbar puncture, contained blood and came out under pressure. Moreover, the frequency with which rupture of the drum of the ear, deafness, labyrinthine changes, and voltaic vertigo occurred showed that the explosion was sufficient to cause a commotion of the brain as severe as might be caused by a blow on the head. Further proof was the fact that microscopic hemorrhages had been found throughout the brain in cases with no visible sign of injury on the body. These cases were commotional shock, as against emotional shock. On the other hand, a soldier born with or having acquired emotivity tended sooner or later to develop one or other form of nervous complaint. A shell burst near him and he saw the flash and was blinded by it, and remained functionally blind; he heard an explosion and was temporarily deafened by it and remained deaf, this being in a sense a method of defending himself against unbearable sights and sounds. These and other conditions of the same sort were curable by suggestion given in opposition to the emotional trend producing the phenomena.

Cases might, of course, occur in which both commotional and emotional shock were present. Though a neuropathic tendency greatly assisted the onset of shock, this might occur in sound individuals. The instincts connected with the emotions of fear and anger were all-important, but equally so was the herd instinct, and morale, good or bad, in a regiment was largely dependent on the instinctive suggestibility of man. A British general was reported to have said: "Ten per cent. of a regiment will follow you to the gates of hell; 10 per cent. will fall down or run away; and the remaining 80 per cent. will follow either." It might therefore be supposed that in the 10 per cent. who followed anywhere the primitive emotion of anger, with its instinctive reactions, was inborn and dominant in the personality, and that to fight was the instinctive reaction of self-preservation in these men. But, in modern trench warfare anger was impotent. The soldier could neither fight nor run away. He could only crouch and hide himself, the instinctive attitude of the timid animal when threatened with danger. In treating the functional neuroses, Dr. Mott did not regard psychotherapy as important, but it was valuable in hysteria.

Prognosis with Special Reference to the Assessment for Pension Purposes and to the Capacity of the Worker

Dr. Thomas Lewis read a paper on this subject. He said that the great defect in the system of examining recruits had been reliance on methods suitable enough in forming or completing the diagnosis of grave cardiac disease, but unsuited in detecting the earliest manifestations of ill health. In sorting men who are the subjects of serious cardiac affections, a small number are at once and easily placed in a group as totally unfit for service. They showed manifest and obvious signs of disease. The chief work came in assessing fitness or unfitness in the far larger group of those who bordered on disease. In these, the great majority, the physical examination, the special examination by means of mechanical or electrical instruments failed to achieve our purpose. The secret of successful prognosis lay in actual tests of efficiency. In the great majority of recruits, whether suspects of cardiovascular defects or not, actual tests of endurance are the only tests on which reliance can be placed.

These tests are equally applicable in sorting convalescent soldiers and in assessing pensions. Because they were not used, a large proportion of present assessments were grossly at fault.

Whenever a soldier failed to show such unmistakable signs of ill health as to leave no doubt as to his condition, his reaction to work must be observed in assessing his disability. In many cases the act of undressing might be a sufficient test to elicit breathlessness. In some a short hopping test sufficed; in others more strenuous and prolonged effort was required to produce signs of breathlessness and fatigue. The measure of efficiency was the amount of work undertaken to provoke objective symptoms. But such tests should not replace the physical examination; they should supplement, or be supplemented by, the latter. Many men performed long and strenuous work in the front line and on the forced march, yet were the subjects of serious structural heart disease. Many men presenting clear signs of developed mitral stenosis or aortic disease showed, when deliberately tested, an almost or quite perfect tolerance of hard physical work. Exercise tests would not eliminate such recruits, neither would they form a sufficient basis of prognosis in men returned to civil work. Nevertheless, in structural disease of the heart exercise tests were of considerable consequence. Up to the end of January, 1919, over 50,000 men had been discharged from the army and navy for affections attributable to the heart. Many more remained in the army. He calculated that of the number one third to one half were suffering before they joined the service. Of the 50,000 cases of so-called heart disease, only 5,000 were suffering from heart disease in the structural sense.

Sir James Mackenzie (who presided) said that the patient wanted to know what bearing his symptoms had on his future and the physician must be prepared to answer him. This meant not only a wide knowledge but a discriminating judgment. It meant a clear idea of the value of symptoms, their meaning and their bearing on the evolution of disease. Let no man think that this could be achieved by the aid of elaborate instruments, by modern magic, so to speak. It could only be achieved by close and careful observation of many patients over a long period of time and by diligent thought. But the progress of medicine depended on this observation and this thought, for after all the only indication that a man was unwell was his symptoms. The field of medicine had been long too much neglected in favor of so-called new methods, which at best were but a means to an end.

Gunshot Wounds of the Chest

Col. T. R. Elliott, F.R.S., opened the discussion. He said that after a wound of the chest the respiration was shallow and quickened. On the injured side the intercostal muscles were said to show an increased tone, "guarding the wound within," and the diaphragm was relaxed in the complete expiratory phase. There was reason to suppose that also the bronchiolar musculature was reflexly contracted, which damped down the current of air. The lung tended to be small on the wounded side and to collapse everywhere. In cases of hemothorax the coagulation was interfered with by the respiratory movements, so that fibrin was to a certain extent whipped out of the blood. The pleura reacted by a mild inflammation (effusion) to some constituent of the hemothorax, even when sterile. The fluid mixture of whipped blood and pleural effusion could be withdrawn by aspiration; the clot could not. The clot developed in time into a tough jacket, which restricted the lung to the size it was at the moment confined and hindered subsequent expansion when the fluid was removed. Therefore, a large hemothorax should be removed as completely as possible at the earliest date. If the hemothorax was chiefly fluid, early aspiration would suffice. Even on the second or third day this might be done. With a large hemothorax it was difficult to be certain that clot was present. More than one failure in attempted aspiration was necessary before it could be concluded that the failure was due to excess of clot. When this was proved, thoracotomy, evacuation, and closing completely without attempting drainage was the treatment. But if delayed so long that the clot had time to organize this was unsatisfactory. The urgent problem of chest wounds in this war, however, was checking the spread of infection. Half of the deaths from chest wounds at clearing stations and all the deaths on the lines of communication were due to sepsis. Of septic hemothorax cases, 50 per cent. were fatal under the average skill available in hospitals. Those who survived, thanks to early detection and adequate drainage, were in hospital twice as long as sterile hemothorax cases. One third of them were invalided out of the service, whereas practically every case of sterile hemothorax got back to duty.

Malaria

Lieut.-Col. S. P. James discussed the risk of the spread of malaria in England, which was free from indigenous disease until August, 1917, when cases were discovered among soldiers and civilians who had never been out of the country. The total number of such cases was now 326. Demobilization would result in malaria carriers being scattered all over the country. In a town in which indigenous malaria occurred it was not scattered at random but occurred in particular houses where there was a carrier and did not spread to neighboring houses. Hence such houses were called "malarious houses." This could be explained only on the hypothesis that the particular mosquito which bit the carrier remained in that house or if it fled outside returned to it. These houses were very favorable for mosquitoes. They were old fashioned, containing many dark corners where the mosquitoes settled. Such dangerous dwellings could be detected by ascertaining whether mosquitoes could be caught in them day after day for a week or more during summer. The factor which determined the occurrence of indigenous cases of malaria was not the abundance of carriers or of anophelines but the degree in which there was close and continuous association between the malaria carrier, the anopheline and the susceptible person. This was likely to occur only in the particular type of dwelling which the anopheline selected as its resting and feeding place. It would be difficult if not impossible to find a locality in England in which antilarval measures would be "worth the candle," but anophelines could be kept out of houses by whitewashing and other cleaning up.

Sir Ronald Ross (who presided) said that he was not entirely sure that quinin acted as a direct poison to the malarial parasites. He suggested that it stimulated the production of some antibody which destroyed them.

The Projected Antivivisection Legislation

In connection with this matter (mentioned in the last letter to THE JOURNAL) Sir William Osler moved the following resolution: "This meeting of the combined sections of pathology and preventive medicine of the British Medical Association learns with dismay of the possibility of the passage through the House of Commons of a bill to prohibit experiments on dogs. The anatomic and omnivorous habit of the dog, together with the fact that it can be kept in health and comfort under the conditions imposed by laboratory work, render the larger sort the only available subject for experiment in important fields of physiologic and pathologic investigation. The prohibition would have the deplorable effect of hampering the progress of medicine and of rendering Britain alone among the civilized nations unable to contribute to progress in a department of research in which it has played a distinguished part." Sir William Osler said that from Galen to Victor Horsley progress was based on experiment.

Col. Haven Emerson, U. S. Army (who presided), said that it was impossible for physiologists and laboratory workers to bear the entire burden of conducting the conflict against the legislative attacks on the freedom of science. The resolution was not enough; it must be followed up, and the lives of parliamentary representatives made miserable until they adopted the proper point of view.

Venereal Diseases

Sir William Osler presided over the discussion on venereal diseases. He said that the four pressing questions were notification, prevalence, prevention and treatment. We could never go far with prevention and cure until the cases were notified and under full control. Laws enforcing this were now effective in parts of Australia and of the United States. Naturally there were objections just as there were to the notification of tuberculosis, but notification could be carried out with secrecy, and it was the only measure which would enable the profession to keep control of the cases. Syphilis was as prevalent as ever, though possibly less virulent. Previous measures had failed. The educational and moral campaigns had helped but had not succeeded. To put venereal diseases in line with other acute infections would be to ensure thorough treatment of each case, the control of harlotage and of infected harlots, the prevention of marriage of infected persons, and the provision of methods and measures of disinfection for persons who had been exposed, especially arrangements for early disinfection at the venereal centers.

Col. L. W. Harrison, who is in charge of the well-known military hospital for venereal disease at Rochester Row, London, opened the discussion. He said that in 1916 ablution chambers were set up in barracks, where men could disinfect by irrigating with potassium permanganate and inunction with calomel ointment. Generally they were not a success because medical officers did not take a great interest in them. In 1918 a new system was adopted. A man could have on application a small bottle of potassium permanganate solution with which to swab the parts and a tube of 30 per cent. calomel ointment, some to be squeezed into the urethra and some to anoint the parts after exposure. The results so far had not been particularly striking for the whole country, though there was no doubt as to the efficacy of these methods when properly applied. In the London district the admission rate per thousand troops per annum had been reduced by these measures from 95.6 to 32. Coming to the second line of defense, most of the abortive methods of treating gonorrhea had been tried in the British army, but only on a small scale, as the men reported too late. The results confirmed those obtained on a much larger scale in the Australian army. Success depended on the man's reporting within twenty-four hours of the onset. The best results were obtained by the following method: 1. After urinating disinfect the glans and meatus with 1:2,000 mercuric chlorid or with spirit. 2. Irrigate the whole urethra with 1:4,000 potassium permanganate. 3. Inject 10 per cent. argyrol or similar silver salt and make the patient retain it for twenty minutes. Repeat this twice daily for three or four days. 4. Irrigate once daily with potassium permanganate for from four to six more days. In the later stages intermuscular injections of succinimid and other compounds of mercury were tried. They frequently brought about a rapid diminution or disappearance of discharge, but in the long run they failed to curtail the disease. Vaccines had been tried, but the only one which seemed to hold out hopes of success was that prepared by Capt. D. Thomson in the Rochester Row Laboratory. In gonorrheal arthritis excellent results had been attained from the intravenous injection of antityphoid vaccine, suggested on the principle of "pyrogenic" therapy.

In the treatment of syphilis eight injections of 0.3 gm. of arsphenamin and six of 0.75 grain of calomel were given in twenty-eight days. Up to November, 1915, there was no trouble of any moment, but then a series of severe cases of dermatitis began and seven proved fatal, chiefly from pneumonia or toxemia complicating the dermatitis. In March, 1916, an interval was introduced into the course so that those susceptible to arsphenamin could display the effects and a careful watch was kept for the first sign of erythema. Later a second interval was introduced. These precautions bore fruit, for among 16,000 patients subsequently treated only five deaths were traced, some of which appeared to be due to other causes. The number of clinical relapses amounted to 1.1 per cent. for those patients who had taken 2.4 gm. of arsphenamin.

Colonel Ashbourne, U. S. Army, stated that in the American Army the venereal rate in France was below half of the best rate they had ever obtained before this war. The campaign against venereal disease had been very successful. In the American Expeditionary Forces moral, mental, educational, recreative and religious influence had borne good results, as well as threats of punishment, especially the threat of retention in France, which had been very effective.

Marriages

Stanton Harold Barrett, Lieut., M. C., U. S. Army, Chattanooga, Tenn., formerly on duty with Base Hospital No. 80, American E. F., now instructor in bacteriology American E. F. University, Beaune, France, to Miss Catherine Clarke of Owensboro, Ky., Aug. 24, 1918.

Johannes Benedict David de Beer to Miss Mabel Adelia Jarvis, both of Brooklyn, April 12.

Charles William Larrabee to Miss Dovie Mae Collins, both of Gainesville, Ga., April 14.

Lyle Millan Mason to Evlyne Wailes Brewer, both of Washington, D. C., March 19.

Abraham Lear Morris to Miss Fanny Reeves Ellison, both of Chicago, April 9.

Herbert A. Adler to Miss Emily Frisch, both of Brooklyn, April 7.

Deaths

Lewis Theophilus Griffith ✠ **Lieut.-Col., M. C., U. S. Army,** New York City; Albany N. Y., Medical College, 1897; aged 45; a member of the Association of Military Surgeons of the United States; who entered the military service as lieutenant and assistant surgeon, First New York Volunteer Infantry, in 1898, serving through the war with Spain, then was made acting assistant surgeon, U. S. Army, until March, 1901, when he was promoted to captain and assistant surgeon, U. S. Volunteers, and ten months later to major and surgeon, U. S. Volunteers; who served as assistant in the military hospital at Honolulu, from August, 1898, to December of the same year; and in September, 1900, was sent to the Philippine Islands, and at the outbreak of the World War reentered the service as major, M. C., and was sent to France in September, 1918, in command of Base Hospital No. 76, Vichy; died from disease, at Vichy, April 8.

H. Augustus Wilson ✠ Philadelphia; Jefferson Medical College, 1879; aged 65; one of the most eminent orthopedic surgeons of the United States; for thirty-nine years a member of the faculty of his alma mater as clinical lecturer, clinical professor and professor of orthopedic surgery; from 1879 to 1892 a lecturer in the Philadelphia School of Anatomy; professor of mechanical surgery in the Philadelphia Polyclinic from 1885 to 1897 and thereafter emeritus professor; clinical professor of orthopedic surgery in the Women's Medical College of Pennsylvania, Philadelphia, in 1889; orthopedic surgeon to the Jefferson Medical College, St. Agnes' and Philadelphia General hospitals; died at his home, April 16, from uremia.

George W. Wagoner ✠ Johnstown, Pa.; Western Reserve University, Cleveland, 1878; aged 63; treasurer of the Medical Society of the State of Pennsylvania, and president in 1909; secretary, member of the board of managers and of the surgical staff of the Conemaugh Valley Memorial Hospital; mayor of Johnstown from 1896 to 1899, and president of the board of fire commissioners in 1906; one of the sufferers in the Johnstown flood, but who nevertheless worked heroically throughout that period; died at his home, April 26, from pulmonary embolism.

Robert Henry Gilliford ✠ Pittsburgh; Medical College of the State of South Carolina, Charleston, 1874; aged 69; president of the Bank of Secured Savings, Safety Real Estate Company, and Security Improvement Company, Pittsburgh; for many years a member of the staff of the Allegheny General Hospital, and poor physician of Allegheny City; for two years a member of the common council and for nine years a member of the select council; president of the Allegheny Fire Insurance Company, died at his home, March 28.

Nomus Paige, Taunton, Mass.; Dartmouth Medical School, Hanover, N. H., 1861; aged 79; a member of the Massachusetts Medical Society for fifty-five years; a member of the staff of the Morton Hospital, Taunton; physician to the Taunton jail for twenty-five years; a trustee of the Taunton Savings Bank; one of the founders and directors of the Taunton River Mills; organizer of the Taunton Electric Light Company, and manager from 1882 to 1901; died at his home, April 16.

Reuel Baker Kimball, New York City, and Sea Bright, N. J.; College of Physicians and Surgeons in the City of New York, 1880; aged 64; a fellow of the New York Academy of Medicine; attending physician to the Babies' Hospital, and consultant to the Monmouth Memorial Hospital, Long Branch, N. J.; died in the Stern Hospital, New York City, April 18, from bronchial pneumonia.

Jefferson Scales, New Brighton, Staten Island, N. Y.; Jefferson Medical College, 1867; aged 73; a member of the Medical Society of the State of New York; and once president of the Richmond County Medical Society; a Confederate veteran; consulting physician to the S. R. Smith Infirmary, and St. Vincent's and Sea View hospitals; died at his home, April 14.

Henry A. Page, Newport News, Va.; Yale University, New Haven, Conn., 1865; aged 79; surgeon of Massachusetts Volunteers during the Civil War, and a practitioner of Boston; an inmate for many years of the National Soldiers Home, Newport News, Va.; died in the veteran's ward of that institution, March 20.

✠ Indicates "Fellow" of the American Medical Association.

Amanda Lockman Shelton, Bloomfield, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1892; aged 68; for many years a member of the staff of the Bloomfield Hospital; while suffering from despondency and mental derangement, hung herself in the Bloomfield Hospital; April 9.

Robert Campbell MacGregor, Duncan's Station, B. C.; Manitoba Medical College, Winnipeg, 1896; aged 50; formerly of Saginaw, Mich., and professor of physiology in the Saginaw Valley Medical College; died at his home, April 2, from cerebral hemorrhage.

George Rice Adkin, Grand Rapids, Mich.; Grand Rapids, Mich., Medical College, 1899; aged 42; formerly lieutenant, M. R. C., U. S. Army, was found dead in his room, in Detroit, April 14, from the effects of an overdose of chloroform.

John Devoe Martinez Cardeza, Brooklyn, N. Y.; University of Pennsylvania, Philadelphia, 1877; aged 78; for many years a practitioner of Philadelphia; died at the home of his son in Brooklyn, April 15, from pneumonia following influenza.

Frank Howard Ransom, Buffalo, N. Y.; University of Buffalo, N. Y., 1900; aged 47; a member of the Buffalo Academy of Medicine, and consulting obstetrician to the Buffalo General Hospital; died at his home, April 2.

Bryan O'Brien, Philadelphia; University of Pennsylvania, Philadelphia, 1881; aged 78; also a pharmacist; a petty officer in the Navy during the Civil War; died at the home of his daughter in Philadelphia, April 11.

Carl W. Lindner, Martin, Fla.; Miami Medical College, Cincinnati, 1875; aged 74; for many years a practitioner of Anthony, Kan.; died in the Marion County Hospital, Ocala, Fla., April 5, from cerebral hemorrhage.

George S. Rainey ✠ Salem, Ill.; Louisville, Ky., Medical College, 1875; aged 69; a veteran of the Civil War; major and surgeon of U. S. Volunteers, during the war with Spain; died at his home, April 8.

Abram Eldridge Carpenter ✠ Boonton, N. J.; University of Pennsylvania, Philadelphia, 1874; aged 66; a specialist in tuberculosis; mayor of Boonton in 1891; died at his home, April 8, from nephritis.

William Harris Pope, Jr., Beaumont, Texas; Tulane University, New Orleans, 1910; aged 33; a member of the State Medical Association of Texas; died at his home, April 12, from pneumonia.

John Wilson Burns, Watervliet, N. Y.; Albany (N. Y.) Medical College, 1901; aged 40; physician to the local tuberculosis dispensary; died at his home, March 29, from pneumonia.

James H. Holstein, New Orleans; Tulane University, New Orleans, 1899; aged 50; died at Touro Infirmary, New Orleans, April 9, a few hours after an operation for goiter.

Elmer Bert DeGraff, Alexandria, Minn.; College of Physicians and Surgeons, Keokuk, Iowa, 1888; aged 55; died at his home, April 1, from pneumonia following influenza.

Abraham Branaman, Kansas City, Mo.; Kansas City (Mo.) Medical College, 1899; aged 65; died in the Kansas City General Hospital, April 1, from cerebral hemorrhage.

Alphonse A. Clafflin, St. Albans, Vt.; University of Vermont, Burlington, 1890; aged 61; died at his home, January 16, from bronchopneumonia following influenza.

Yost S. Trayer, Denison, Texas; American Medical College, St. Louis, 1876; aged 69; died in a hospital in Sherman, Texas, April 4, from cerebral hemorrhage.

Patrick Francis Boyle ✠ South Bethlehem, Pa.; Jefferson Medical College, 1902; aged 56; died in a church in South Bethlehem, March 30, from endocarditis.

Harry Mayfield, Ogden, Utah; McGill University, Montreal; aged 38; died in Salt Lake City, March 20, from an overdose of a narcotic poison.

Martha May Howells, Detroit; New York Medical College and Hospital for Women, New York City, 1878; aged 70; died at her home, April 2.

Samuel H. Green, Atlanta, Ga.; Atlanta (Ga.) Medical College, 1882; aged 53; died in a sanitarium in Atlanta, April 3, from heart disease.

Duane B. Miles, Cleveland (license, Ohio, 1896); aged 68; a practitioner for about forty years; died at his home, April 7.

William Gibson, Defiance, Ohio (license, Ohio, 1896); aged 78; died at his home, April 3.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

IODEX

At fairly frequent intervals physicians receive through the mail free samples of "Iodex," a black ointment sent out in small, circular aluminum boxes. Iodex is sold by Menley and James, Ltd., New York City, under the claim that it is a preparation of free iodin,[1] minus the objectionable features that go with free iodin. The preparation was examined in the A. M. A. Chemical Laboratory in 1915, and found practically devoid of free iodin. The laboratory also reported that when one or two grams of Iodex was rubbed on the skin of the forearm on several subjects and the urine collected and tested for iodin, the results were negative. This disproved the claim that "thirty minutes after inunction [with Iodex] iodin can be found in the urine."

The findings of the laboratory, which were summed up in a report (THE JOURNAL, June 19, 1915) of the Council on Pharmacy and Chemistry on Iodex, was essentially as follows:

1. The composition is incorrectly stated; the actual iodin content is only about half of that claimed.
2. The action of Iodex is *not* essentially that of free iodin, although that is the impression conveyed by the advertising.
3. The assertion that iodin may be found in the urine shortly after Iodex has been rubbed on the skin, has been experimentally disproved.

At the time the laboratory reported its findings, it pointed out the obvious contradiction in the claim that Iodex is not only an "effective free iodin application without drawbacks" but also a means of "really efficient external iodine therapy without stain or irritation." It is impossible to have free iodin present in sufficient quantities to be therapeutically efficient and not get skin-stains and irritation.

In a recent issue of the house organ, *Pharmacal Advance*, there was a large display advertisement of Iodex under the heading: "For Prophylaxis and to 'Double Cross' Disease," with the claims:

"Free Iodine"
"Rub Through Skin"
"Does Not Irritate nor Stain"

On other pages of the same issue these claims appeared:

"There is no therapeutic virtue in Iodex which is not inherent—though often latent—in Free Iodine; and there is no virtue in Free Iodine which is not available in Iodex."

"In Iodex all the beneficent properties of Iodin are emphasized and all its disadvantages are eliminated—in a word, Iodex is Pure Free Iodin presented therapeutically active and efficient, ready for use in all conditions, with all the well-known powers of Free Iodin, but without the sequelæ of unpleasant effects, as irritation, corrosion, desquamation, staining, etc., which defeat the ends of treatment when ordinary preparations of Iodin are used. The fact that Free Iodin in the form of Iodex can now be used in rectal and vaginal treatment, without irritation, speaks volumes for its penetrability and bland action."

These quotations are sufficient to show that the manufacturers of Iodex still persist in their claim that the product contains free iodin. In view of this the A. M. A. Chemical Laboratory has again examined Iodex, having recently purchased specimens on the open market. It reports that Iodex gives no test for free iodin, or at most, but minute traces.

An interesting side-light on the methods of Menley and James is also brought out in the issue of *Pharmacal Advance*

1. "Free" or elementary iodin (such as the tincture of iodin) is used externally for its local irritant and antiseptic effects. "Combined iodin," (*e. g.*, iodid of potassium) does not produce these effects and when preparations containing iodin in combined form are used, it is with the expectation of obtaining the systemic ("alterative") effects such as are produced by iodids.

just quoted. Under a "department" misnamed "Book Reviews" the following appears:

"THE ACTIONS OF DRUGS.—Torald Sollmann, M.D. Published by W. B. Saunders Co., Philadelphia. This is a book of lectures designed for students in pharmacy and deals with the subject in plain and simple language. The author in his introduction has brought out the fact that over-counter prescribing is baneful both to the public and to the pharmacist himself. Among some of the interesting points brought out that *Pharmacal Advance* has always maintained, namely, that 'Potassium iodid is not absorbed efficiently by the skin; hence the ointment of potassium iodid is unscientific.'

"We would especially call attention to Ungt. Iodi U. S. P., containing Potassium Iodid, used as a solvent for its iodin content. Accepting Sollmann's statement, it is to be assumed that Ungt. Iodi U. S. P. has not 100 per cent. efficiency."

Garbling statements from scientific works for the purpose of puffing proprietaries is not unusual in nostrum exploitation. The facts are that the statement in Sollmann's book, introduced in the Menley and James house organ under the guise of a book review, appeared in a discussion of iodin compounds. In this the author points out that to obtain systemic iodid effects, it is irrational to apply iodin preparations externally. So far as the free-iodin content of the official ointment of iodin is concerned, L. E. Warren (Reports of the A. M. A. Chemical Laboratory, 1917) has shown that even after more than six months this ointment still contains about 75 per cent. of the free-iodin originally added. The official ointment (*Unguentum Iodi*, U. S. P.), therefore, so far as its free-iodin content is concerned, is far superior to Iodex, which contains no iodin in its free state.

TWO MISBRANDED NOSTRUMS

Bull's Herbs and Iron Compound.—Shipped in March, 1917, by the W. H. Bull Medicine Co., St. Louis. Analysis showed the preparation to be a weak alcoholic solution containing iron, phosphates, sugar and vegetable derivatives, among which were quinin, red pepper, gentian and podophyllum. Falsely and fraudulently represented as a remedy for weak nerves, ailments peculiar to women, scrofula, rickets, liver, kidney and bladder diseases, etc. Fine, $25 and costs.—[*Notice of Judgment No. 6215; issued April, 1919.*]

Effervescente Granulare.—Shipped in June, 1917, by the Milano Pharmacal Co., Inc., New York City. Analysis showed the preparation to consist of over 13 per cent. of baking soda, 61 per cent. of sugar, 3 per cent. of borax, and 17 per cent. of cream of tartar. The product was invoiced as "Eff. Magnesia," but the analysis showed there was no magnesia present. It was declared adulterated because of presence of borax, and misbranded because, while sold as Effervescent Magnesia, it contained no magnesia. Fine, $15.—[*Notice of Judgment No. 6221; issued April, 1919.*]

Correspondence

"THE SUPPLY OF PRACTICAL NURSES"

To the Editor:—I pointed out, in THE JOURNAL last year, the need of more nurses, of a class of women in that profession too little represented now, and of a shorter and better balanced training course. Since then, renewed criticisms of the old régime have appeared, culminating in your trenchant editorial of January 25 on "The Supply of Practical Nurses." And in recognition of these needs, the nursing situation is undergoing an evolution. Stanford University offers its college degree and nurse's diploma after three years in the university and two more in the hospital, and is also giving a preliminary course of intensive training for three months of an eight-hour day, at a fee of $90, to qualified young women, who must live at home. This aims to do three things: (1) Give training in sciences in a properly equipped school, thus enabling smaller schools to demand this prerequisite and devote themselves solely to the practical part of nurses' training; (2) establish the precedent of student-nurses living at home or in homes of their own choosing; (3) afford them an insight into the educative side of the work without the monotony and drudgery and endless repetition of menial tasks. Once show the highest type of women that the nurse's training may be an education and not a mindless, long-drawn-out vocational training, made bearable only by its emotional appeal, and we shall render as great a public service as was rendered when training schools were first established.

The Vassar Plattsburg for nurses was a frank attempt to attract educated women into the nursing profession. Findings in the occupational history of college women, published in the May, 1918, number of the *Collegiate Alumnae Journal*, are sigificant. Of 16,000 graduates of ten years' standing, 7,819 entered the profession of teaching; 471, the profession of social service; eighty-four, the profession of medicine, and thirty, the profession of nursing. Contrast this pitiful showing of college women in nursing with their response to the wartime appeal for nurses, which offered a distinctly educational program to begin with. The training camp for nurses at Vassar College cut down by nine months the three year course for all women of not over ten years' graduation time from recognized colleges. Over 1,000 applications were received; 435 applicants were carefully chosen, and given twelve weeks' intensive training under hospital régime and the same discipline off duty as prevails on any campus. Charges for the service were $95. Each of the 435 was placed under moral obligation to complete the training. No pledge was exacted to engage in nursing on graduation. Of the 435 entrants, 418 were graduated and 412 assigned to hospitals, 399 entering hospitals within a few months. The armistice naturally withdrew the big influence which led women into service, and yet the fact that up to Jan. 1, 1919, 104, or 25 per cent., had already withdrawn needs investigation. Inquiry reveals that 25 per cent. of these 104 resignations were due to the armistice; 15 per cent. more resigned to marry, and 4 per cent. to study medicine. Five died; three were rejected by the schools they entered; 289 still remain in hospitals. Twenty-one entered one of the best New York schools. Five dropped out before January 1, one to study medicine, one because of distaste for the work, and three because of illness. Sixteen are still in training, reported interested and satisfactory, though there is a general criticism of the monotony of work.

Plainly it was the desire for war service that brought college women into the nursing field. Without the urge and glamor of war, it offers, as at present taught, a too large proportion of mechanical tasks, destroying initiative and giving no scope for their trained resources commensurate with that in other professions.

The following data on nurses' training for war work was collected by the writer in France, and summarizes the opinions of hundreds of army physicians:

1. Wartime nursing was a new field, and nurses had much to learn.
2. Previous training and preconceived ideas were often a menace, instead of a help.
3. During drives, intelligence, willingness and strength determined usefulness, and no nursing training beyond ordinary ward experience was essential.
4. Shortage of nurses made refinement of nursing impossible. It was a new game under abnormal conditions which gave the fine type of nurses' aids a relatively greater advantage than they might have had under normal conditions.

The comparison at home presents a sad picture. THE JOURNAL editorial of January 25 accuses the trained nurse of bringing discredit on her profession which only the brilliant record of the service and sacrifice of her sister abroad can blot out. The charges of autocratic conduct, of unwillingness to meet home emergencies in the crises of illness, and of unwarranted demands for higher pay, should, as you point out, be limited to a small percentage of those who did not go overseas; but in this small percentage, the abuses of opportunity were so much worse than suggested by these criticisms that it must remain a reflection on all nurses if they do not themselves investigate and punish the flagrant defamers of their profession. The deduction is made that women of the right personality and native intelligence, preferably high school or college graduates, will after a year's

training be fully as competent, in 90 per cent. of illnesses, as the three-year trained nurse, and fit into the average household better. The high-salary demand is the natural outcome of the absurdly long training period as compared with the short service later. Possibly the selfishness is a fatigue reaction to be overcome by an eight-hour day. Finally, personality and conduct are the resultant of heredity and the training begun a decade before the training school gets her. The corrective of bad breeding, lack of adaptability, and unwillingness to serve in emergencies, lies in a broader education, with less routine menial work, better home environment, and more inspiring and stimulating contacts.

PHILIP KING BROWN, M.D., San Francisco.

SUCCESSFUL HUMAN INOCULATION WITH PURE CULTURES OF PFEIFFER'S BACILLUS (B. INFLUENZAE)

To the Editor:—Some years ago when working with hemophilic bacilli from various respiratory infections, especially pertussis, I had occasion to test the pathogenicity of these organisms in the human throat. The result of this experiment was briefly recorded at the time in an article published under a general title (The Bacteriology of Whooping Cough, *J. Infect. Dis.* **3**:1, 1906), and for this reason might now be overlooked. Since the results were so striking, and in view of the importance of these bacilli in relation to the recent pandemic of influenza, I have been led, at the suggestion of several workers in this field, to record again the experiment under a more definite and pointed title.

The essential facts are these: Hemophilic bacilli were being found by me commonly in the throats and sputums of a number of infectious diseases, including pertussis, measles, varicella, bronchitis and many others, during interepidemic periods of influenza. They appeared all alike and had not at that time nor have they since been differentiated from the bacillus described by Pfeiffer (*B. influenzae*) as the cause of the influenza pandemic of 1889-1890.

Since these organisms revealed only slight pathogenic powers for animals and did not produce characteristic lesions in them, it was decided to test the effect of the bacilli on the human being. A young man, healthy in every way, volunteered and agreed to submit to the inoculation of his throat with pure cultures of the bacilli. Careful preliminary cultural examination of his throat revealed no bacilli of this character. He had not had pertussis, and according to his own statement and that of his relatives, had not had any serious illness. It is probable that he had never had true influenza, but this could not be certainly determined.

Typical blood agar pure cultures, twenty-four hours old, recently isolated from an uncomplicated case of pertussis were selected for the inoculation. They were washed off and suspended in salt solution, the growth from six tubes being used. I call special attention to this large dosage. The throat, tonsils and nasal mucosa were thoroughly smeared with this suspension, an ordinary throat swab being employed for this purpose. On the second day, almost forty-eight hours after the inoculation, the patient complained of a chilly sensation, a cold sweat, some headache and weakness. His temperature rose from normal (98.4 F. the day previous) to 100.2 F. The same evening it registered 100.1 F. The next morning it was normal again, but rose during the day to 99.5 F. The third day his temperature was practically normal and continued so from that time on. He complained somewhat of a headache and of feeling unwell, and on the second morning said he coughed a little. His throat, on examination when the first symptoms appeared, was slightly hyperemic; the next morning there was present a thick layer of mucus on the pharyngeal wall, and from this time on he coughed, or rather hacked up large quantities of a stringy, tenacious, slightly purulent mucus. This condition continued, becoming gradually less marked, but was still apparent at the end of four weeks. This cough was not spasmodic; it did not resemble pertussis. The leukocyte count on the second day was 9,200. Clinically there was little resemblance to influenza.

Bacteriologic examination of the mucus from the throat, obtained on the first day of symptoms, revealed almost a pure culture of the influenza-like bacilli. They were present both in the throat and on the nasal mucosa in enormous numbers. Direct smears of the expectorated mucoid sputum showed practically no other organism. They were identical in every detail with the organism inoculated. Examinations of the throat were made every few days for four weeks, after which time the patient was not accessible. The number of influenza organisms present became gradually less, but at the end of that time they were still present in considerable numbers. There were no complications.

This experiment shows that when Pfeiffer's bacillus is placed in the throat in large numbers it may grow for a long time and cause definite symptoms. These symptoms, however, do not indicate any specific infection; and this, it seems to me, is quite in accord with the fact that these bacilli are found so often in the throats of persons suffering with almost any respiratory infection. The experiment further shows that these bacilli are at least not always harmless saprophytes, and at times are capable of causing reactions which, though not specific in character, might modify secondarily a primary infection.

DAVID J. DAVIS, M.D., Chicago.
Professor of Pathology, University of Illinois College of Medicine.

MUTUAL RECOGNITION OF MEDICAL DEGREES IN NORTH AND SOUTH AMERICA

(Translation)

To the Editor:—I have received the third number of the Spanish Edition of THE JOURNAL, and I have been most favorably impressed with its contents. It furnishes a most complete review of medical science, and gives a clear insight into the fraternal spirit which pervades the medical profession throughout the world. The world-wide scope of your publication gives it a position of advantage over local journals, especially over those whose main purpose seems to be the advertising of certain products.

Could you not inaugurate a movement which would include South America, Central America and North America, with the object of bringing about mutual recognition of medical degrees in all North and South American countries? The time has come when the reasons which may have existed in the past for national control of medical degrees no longer obtain, in view of the restricted privileges to which the holder of such degrees is entitled.

I base my opinion on the following considerations:

1. Medical science is universal.

2. The studies that constitute a medical course are practically identical everywhere, and the slight variations do not alter the basic scientific principles.

3. Physicians from all the American republics have exercised their profession with marked success on the battlefields and in the hospitals of Europe—is, then, their competence limited to war times?

4. There is reciprocity between several republics of South America: Argentina, Uruguay, Paraguay, Bolivia, Peru and Ecuador. Why not extend reciprocity to the other republics?

5. Physicians are especially fitted to give the highest expression to the fraternal spirit because of the peculiar character of their profession and owing to the fact that the medical works which they study in common constitute a strong natural bond.

6. The time is near when the medical profession throughout the world will be regarded by the various governments as an indispensable counselor. Why not let North and South America pave the way? Some common agreement must soon be reached with regard to the air, the water and the land, since micro-organisms are transmitted by these mediums. Then again, the medical profession of Pan-America must be the exponent of great social reforms, especially those of a humanitarian nature.

7. If preventive medicine and intellectual and social reciprocity are to rest on a solid foundation, it is essential that

mutual recognition of university degrees, especially medical degrees, shall be established without delay throughout Pan-America.

I invite your consideration of these ideas which I have jotted down as they occurred to me. It is my opinion that the American Medical Association is the body best fitted to launch this vast movement which will prove so eminently useful to the entire world. For this reason the physicians and the medical faculties of the United States ought to secure the opinion of their government, and if it approves the idea, an appeal should be made to each one of the American republics.

Why do we remain so distant? Why do we not know each other better, since a better acquaintance will promote the welfare of the countries in which we live and in which we are working to prevent and cure disease?

DR. F. VALLÉS VARGAS, Buenos Aires.

[COMMENT.—We are, of course, in sympathy with the lofty and far-reaching aims of our South American correspondent. It must be pointed out, however, that the goal he has in mind can be reached only by long and persistent labor, and that there are serious obstacles in the way. From our State Board Number, it will be seen that reciprocal relations are not yet an accomplished fact even among all the states in this country. In addition, before any such vast plan can be taken up, it will be necessary to have full information as to the character of medical education in all the countries involved, which may require an inspection of the medical schools, and some sort of uniformity established in the medical curriculums. With this end in view, the Council on Medical Education has been trying for some time to get data for Latin American countries similar to that now available for the United States. While this information has been forthcoming from some countries, it is still lacking for others; and we hope that the letter published above may serve to stimulate interest in this matter and make easier the collection of information on medical education in South America. The only countries from which such information has been received are Argentina, Bolivia, Brazil, Columbia, Mexico and San Salvador, and for some of these the information is quite incomplete.—ED.]

PRAGUE FOR POSTGRADUATE MEDICAL EDUCATION

To the Editor:—Last January I wrote you from Prague, informing you that I had been located in France for six months, being associated with the Czecho-Slovak army, having charge of the American Red Cross Hospital in Cognac; also that early in January the convalescent men were ordered back to their homes in Prague, and that I was asked to accompany them.

After reaching Prague, I gave up my position in the hospital and assumed another duty, which I consider to be of great importance both to the United States and the Czecho-Slovak Republic, especially from the medical point of view.

I proposed to look into the possibility of organizing a clinic for the development of specialists at the University of Prague along lines similar to those formerly held in Vienna and Berlin; knowing that for some time to come the medical men from the United States would not be going back to these German cities.

The surgeon-general of the Czecho-Slovak government believed this to be a good idea and consequently ordered me on a "Special Mission" to the United States to invite medical men who desired to come to Prague to study and to explain what they had to offer.

Feeling that this matter could be enlarged on, I asked to be allowed to study the situation in the other allied countries and therefore made a trip to Italy (Rome), France (Paris and Lyon) and England (London). In these cities I studied carefully the possibilities of medical education and believe that in London is the future for such education abroad.

I hope I may have the opportunity of presenting the results of my investigations in these different cities, comparing them, one to the other, as well as all of them to our own postgraduate schools.

When I reached London, I examined THE JOURNAL at the library of the Royal Academy of Medicine, but found that the letter which I had sent from Prague had not appeared. Thinking that it might have been lost in the mails, I write this one, because I believe that the medical men in America are interested.

There are several men from America in Europe working along the same lines, among others Colonel Lloyd of New York, Capt. Lee Mastin Francis of Buffalo, also Dr. Franklin of London, England. In fact there are classes already doing good work, both in Paris and London.

JOSEPH E. BECK, M.D., Chicago.
Lieutenant-Colonel, Medical Corps, Czecho-Slovak Republic.

COMPULSORY DISPENSARY SERVICE

To the Editor:—Cooperation has become the watchword of our time. It might be considered by those who busy themselves particularly with the welfare of the people and of the medical profession, whether or not much good could be accomplished by obliging every physician in a community, whenever it can be done, to fill a hospital or dispensary appointment. This should not be a matter of privilege but a matter of duty. It would work out to the benefit of the public, as well as of the individual physician, who would enjoy a continuous postgraduate course. The details might be worked out by the American Medical Association. I respectfully submit this suggestion.

EMIL AMBERG, M.D., Detroit.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SIOMINE

To the Editor:—What, if any, advantages has siomine over potassium iodid?

H. F. W.

ANSWER.—The advantage claimed for siomine over sodium iodid is that it can be administered in solid form, thus avoiding the taste of iodids which it is claimed is sometimes responsible for nausea. The following statement of the action and uses of siomine appears in New and Nonofficial Remedies, 1919, p. 146:

Siomine is decomposed in the intestine with formation of hexamethylenamine and iodide, the rate of absorption and excretion being essentially the same as that of inorganic iodides. It therefore produces the effects of ordinary iodides, from which it differs only in that it can be administered in solid form. The administration of siomine provokes the luetin reaction.

No therapeutic claims are made for the hexamethylenamine component of siomine, this being present only to render the substance insoluble.

While ordinarily the hexamethylenamine content of siomine may be ignored, the drug should be discontinued if any signs of hexamethylenamine intolerance should arise, such as vesical irritation or hematuria.

COLLOSOL MANGANESE

To the Editor:—Has anything been published on the efficacy of "Collosol Manganese" in malaria? I recently read the Council's report which indicated the fakishness of the "Crooke's Collosols," but I also was told that the War Office of England had requested a study to be made of colloidal manganese in malaria.

J. B., Columbus, Ohio.

ANSWER.—Stephens, Yorke, Blacklock, Macfie, Cooper and Carter report in the *Annals of Tropical Medicine and Parasitology* (Feb. 28, 1919, p. 345) the results of their investigation for the English government and conclude: "Collosol Manganese in the doses used is of no value in the treatment of simple tertian malaria."

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Little Rock, May 13. Sec. Eclectic Bd., Dr. C. E. Laws, 803½ Garrison Ave., Ft. Smith; Sec. Regular Bd., Dr. T. J. Stout, Brinkley.

DELAWARE: Wilmington, June 17-19. Sec., Dr. H. W. Briggs, 1026 Jackson St., Wilmington.

FLORIDA: Jacksonville, June 16-17. Sec., Dr. W. M. Rowlett, Citizens Bank Bldg., Tampa.

GEORGIA: Atlanta and Augusta, June 5-6. Sec., Dr. C. T. Nolan, Marietta.

HAWAII: Honolulu, May 12. Sec., Dr. J. R. Judd, Beretania St., Honolulu.

MASSACHUSETTS: Boston, May 13-15. Sec., Dr. Walter P. Bowers, Room 501, No. 1 Beacon St., Boston.

MICHIGAN: Ann Arbor, June 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Minneapolis, June 3-6. Sec., Dr. T. S. McDavitt, 741 Lowry Bldg., St. Paul.

MISSOURI: St. Louis, June 9-11. Sec., Dr. George H. Jones, State House, Jefferson City.

NATIONAL BOARD OF MEDICAL EXAMINERS: Philadelphia, June 2-7. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia.

NEVADA: Carson City, May 5. Sec., Dr. S. L. Lee, Carson City.

NEW JERSEY: Trenton, June 17-18. Sec., Dr. Alex. MacAlister, 438 E. State St., Trenton.

NEW YORK: Albany, Buffalo, New York and Syracuse, May 20-23. Mr. George M. Wiley, director, Exam. and Inspections Div., State Edu. Bldg., Albany.

OHIO: Columbus, June 3-6. Sec., Dr. H. M. Platter, State House, Columbus.

SOUTH CAROLINA: Columbia, June 10. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

TENNESSEE: Knoxville, Memphis and Nashville, June 13-14. Sec., Dr. A. B. De Loach, Exchange Bldg., Memphis.

VIRGINIA: Richmond, June 17-20. Sec., Dr. J. W. Preston, 215 S. Jefferson St., Roanoke.

Vermont February Examination

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the oral, practical and written examination held at Burlington, Feb. 11-13, 1919. The examination covered 12 subjects and included 90 questions. An average of 75 per cent. was required to pass. Three candidates were examined, all of whom passed. One candidate was licensed by virtue of a commission in the Medical Corps. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Harvard University		(1911)	84.1
New York Homeo. Med. Coll. & Flower Hosp.		(1910)	86.1
University of Vermont		(1918)	88.1

College	LICENSED BY ENDORSEMENT OF CREDENTIALS	Year Grad.	Certificate from
Long Island College Hospital		(1894)	U. S. Army

Michigan February Examination

Dr. Beverly D. Harison, secretary of the Michigan State Board of Registraion in Medicine, reports the written examination held at Detroit, Feb. 19-20, 1919. The examination covered 14 subjects and included 100 questions. An average of 75 per cent. was required to pass. Twenty-five candidates were examined, all of whom passed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Detroit College of Medicine and Surgery	(1919)	76.3, 80.1, 81, 81.4, 81.7, 82, 82, 82.3, 82.9, 83.1, 83.7, 83.9, 84, 84.4, 84.6, 84.6, 84.6, 84.9, 84.9, 85.1 85.6, 86, 86.3, 86.9, 87.2.	

Utah Reciprocity Report

Dr. G. F. Harding, secretary of the Utah State Board of Medical Examiners, reports that 6 candidates were licensed through reciprocity at the meeting held Jan. 6, 1919. The following colleges were represented:

College	LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Chicago College of Medicine and Surgery		(1918)	Illinois
Rush Medical College		(1883)	Iowa
Indiana Medical College (Purdue Univ.)		(1906)	Indiana
Harvard University		(1916)	New York
Columbia University		(1918)	New York
Jefferson Medical College		(1898)	Penna.

Social Medicine, Medical Economics and Miscellany

THE PSYCHOLOGY OF PACIFISM

EDGAR JAMES SWIFT, PH.D.
Professor of Psychology and Education, Washington University
ST. LOUIS

Crises reveal mental disorders that pass unnoticed in peaceful times. Through uneventful days the mind pursues its placid course, unchallenged. But when great questions stir the people and issues must be faced, then ability to see things in their right proportion is a rigorous test of sanity. "We are all mad, but I know it," Edward Fitzgerald once said, and perhaps the difference between those whose thinking is incurably "deranged" and others for whom the prognosis is favorable lies in just this knowledge of the waywardness of the human mind. None of us, probably, are hopelessly sane; but perfect assurance and complacency in the verity of one's beliefs greatly reduce the prospect of recovery.

Crises also disclose the content, or lack of content, of human minds. They compel men to find themselves. A great issue is an amazingly keen scout which searches the mind for hidden defects. It is like a chemical that forces precipitation. It analyzes human minds. "The moment when great spirits reveal themselves is when everything is lost."

When a comparatively small group asserts its wisdom against the nation, these men and women are either geniuses or they are suffering from disturbance of mental poise; and probably no one would be inclined to give pacifists the former distinction. What, then, is the explanation of their refusal to cooperate in a war that was so clearly a defense against future aggression? Why did men and women, some of whom are disconcertingly capable in other matters, stand in the track of a great national movement?

This question would not be worth asking did it relate merely to the crisis from which we have just emerged. The war is won. The hands of the clock always move forward. Pacifists were only specks of dust in the timepiece of civilization that made the winning of the war a little late. There is, however, danger of their obstructing the machinery of progress in other matters. Pacifists are not so much individuals as they are a state of mind. And this state of mind is worth examining because it has certain interesting psychologic features, and threatens social danger.

The instinct of self-abasement describes one class of pacifists, pacifists not merely in their attitude toward the war which has just ended, but toward all questions that threaten social or business interests, questions that imperil personal relations or preferment. These are the people who can never be induced to take a positive stand regarding matters that stir the community or the nation. Great ideas never grip them. They are incapable of tremendous enthusiasms. They may be convinced, but they request that their views be not made public. They cannot take a definite stand, and act.

Self-abasement is only a euphemistic way of putting an unlovely fact. Tell a man that he has the self-abasement attitude, and he will feel that you are complimenting him for his humility. Call him a coward, and the consequences will depend on the quantity of self-assertion combined with self-abasement in his personal formula.

Yet many of those who suffer from self-abasement are not conscious cowards. Indeed, they would indignantly deny the charge, and justly. For they find satisfying reasons for their failure to act. "The people are not ready," they say. "They must first be educated to our point of view." Or, "I can do so much more good in other ways if I do not arouse antagonism. My services are needed and I must not jeopardize my influence." Perhaps, indeed, the motive is more personal. "Taking a definite stand will injure my social, business or political prospects, and one must consider one's own interests."

The ingredient of egoism in all these excuses is obvious. And egoism, paradoxical as it may seem, is both recessive and projective—self-abasive and self-assertive. It is a curious psychologic fact that one does what one wishes to do, and then finds reasons to justify one's actions. Many conscien-

tious persons are cowards, but their timidity, overlaid with good intentions, is hidden from themselves.

Human conduct, however, cannot be adequately described in a single formula. Behavior is too complex for so simple a solution. Self-abasement does not explain the attitude of a rather large and exceedingly conspicuous group of pacifists. It does not account for those who jeopardized their social or professional prospects by advocacy of peace. It does not interpret the determination of those who have gone to prison for their belief. With these people pacifism assumes all the intensity of religious fervor, and it displays this enthusiasm and propagandic zeal for exactly the same reason that prompted the self-immolation of religious martyrs—a psychoneurotic condition that finds the most exquisite joy in suffering for a principle. The mental "set" of these pacifists is strikingly similar to certain borderland cases of insanity—cases in which the ego is immensely exaggerated.

Let us clear the ground that we may get a better view of the nature and variety of mental derangement. First of all, insanity is not always the result of cerebral disintegration. To be sure, changes in nerve cells and centers doubtless occur, but so they do when we think, and it is often quite as impossible to detect alteration in the former case as in the latter. Insanity is sometimes the expression of a perverse relation between ideas, or the manifestation of a persistent thought or belief which has become fixed in the mind. In either case the result is a "deranged" mental condition.

This "derangement" may be slight and harmless. The man himself, quite likely, is fully aware of his "peculiarity." It may be one of the good stories which he relates about himself. This, in itself, separates him from the actually insane. Yet the distinction is one of degree rather than of kind. It is a quantitative and not a qualitative difference. The man, for example, who always fears lest he may not have locked his office or safe, and who repeatedly tries the door to assure himself that it is secure, differs only in the degree of his mental peculiarity from another who believes that he is persecuted. Repeatedly trying doors, or washing one's hands for fear of contamination, are harmless diversions. There is no reason why one should not entertain oneself in these ways if one gains comfort and pleasure from the act. In their more lucid moments these people are quite aware of the absurdity of their fears. But a man who persists in thinking himself persecuted may commit murder in the belief that he is protecting his own life.

We have said that insanity is a matter of degree. There is no line of demarcation that separates the sane from the insane. The extreme cases, of course, can be distinguished, but those on the borderline cannot be definitely classified. We call men "queer," "cranks," "peculiar" and "eccentric," but do not confine them in an asylum. Quite likely they would pay us the same compliment of being "a little off." Both wisdom and eccentricity depend on the point of view. An insane man in an asylum frequently regards every one except himself as insane. The verdict of "strange," or "unbalanced," however, is not necessarily a purely subjective judgment. Perhaps the test is the amount and persistence of deviation from the general, though not local, consensus of opinion. This test, as we have said, would at times include geniuses because the mass of people are conservative. The consensus of opinion is that of the "safe," "sane" men. And in this rather common use of the word "sane," the distinction of which we have been speaking is emphasized. One of the peculiarities of those confined in an asylum, however, is that there is no consensus of opinion.

The relation between ideas may be likened, somewhat roughly, to the arrangement of the furnishings of a room. The same articles may produce an interesting, harmonious effect, or they may cause a feeling of hideous discord. Now the distinction between the sane and the insane often lies in the arrangement of ideas, and in the manner in which they follow one another. This is illustrated by the occasional characterization of a man as of unusual sanity. We mean that his thoughts follow one another in a manner so reasonable and enlightening as to impress us with his "good sense."

Finally, we should remember that causation is as true in psychology as in physics or astronomy. Were it not so the mind would be a succession of chance thoughts and emotions, without any significance for the mentality of the individual. Thoughts follow one another for a definite reason. They obey the law of association as truly as objects left unsupported conform to the law of gravitation. A physical law is a statement of the unexceptional behavior, under definite conditions, of objects or forces in the world or universe. And, in like manner, a psychologic law describes the behavior of mental processes. In neither case does the so-called law give the reason for the behavior. It merely states the observed fact. Now the same law of association applies to the insane as to the sane. The difference is that in the insane the systems of thoughts are more perverse and fixed.

The law of association reduces finally to neural habit—the tendency of nervous impulses always to follow the path which they have taken before and, consequently, to bring the same thoughts into mind. One need not go beyond one's own circle of acquaintances for illustrations. Real thinking is sufficiently rare to be surprising and refreshing when encountered. Most people make essentially the same reply whenever the idea or word that commonly calls it forth is heard. And the reason for this is their organized systems of thoughts.

Every thought that comes into the mind has a reason for its existence. This reason is expressed in the law of association, and association, as we have said, is the outward manifestation of neural habit—the tendency of one nervous impulse always to bring certain other impulses in its train. The brain, and with it the mind, has been organized in this way by experience.

Nervous impulses form, as it were, closed circles. Within a given circle there is activity, but this activity does not arouse action beyond the circumference. These restricted nervous impulses combine into a nervous complex whose inbreeding activity produces a mental complex of ideas, thoughts and interpretations. Related experiences and knowledge thus become organized into a fixed system of thoughts and opinions which decide the outlook and view of the individual regarding all questions on which these thoughts have any bearing. The reply that such a person will make when his favorite or antagonistic topic is broached can be predicted. He cannot think beyond his mental complex. This is the explanation of prejudice. It is the cause of definitely settled opinions.

Every one, of course, has three mental complexes—organized systems of thought—but the distinction between "cranks" and "sane" people lies in the firmness of their hold. It is not uncommon, for example, to hear that a man is "crazy" about golf or photography. Appreciation of a book, again, depends on the mental complexes of the reader. Some one has remarked that Bacon was right in saying that reading maketh a full man; but what he will be full of depends on the man.

Pacifists do not differ from others in having these mental complexes. They are natural to the human mind. One of the characteristics of sanity, however, is the ability to let the mind play around ideas so as to see things in their right proportions. Pacifists assume that no moral achievement is worth a fight in which men may be killed. That the "right" not to fight was won solely because other men have fought for this freedom, does not enter into their thinking. This bit of history is not a part of their mental complex. Yet it is doubtful whether there is any good so unadulterated as to contain no dross. Now exaggeration of one evil so as to obscure others indicates a poorly balanced mind. And pacifists allow the evils of war—which all admit—to blind them to the good that a particular war may bring. To say that all wars are bad is to fail to make distinctions. No two situations are exactly alike, and the capacity to observe differences and apportion values is a test of intelligence, and of sanity.

One of the defects of thinking is that these mental complexes become, at times, so saturated with emotion that one is blind to distinctions. The mental complex then becomes a sentiment, impenetrable to argument. Phrases now answer for argument, and the mind is narcotized with "the rights of conscience," "the right of free speech," "the right to refuse to commit murder," and "the peculiar rights of those who have given their sincerest devotion to advocating the insti-

tution among men of that kind of livable régime by the very nature of which the present world calamity would have been rendered well-nigh unthinkable." The affection of pacifists for "rights" is charmingly naive to those who observe that it is always their own individual rights concerning which they are so solicitous. They are belligerent in defense of what they call the inalienable rights of man—by which they mean themselves—but unconcerned for the rights of the community and the nation when these rights conflict with their personal sentiments. They enjoy the results of the battles which others have waged in the past for liberty and democracy, but refuse service themselves. And it is this devotion to their personal rights which reveals their mental incompetence.

Emotions relating to the self are the most persistent and controlling in certain forms of loss of mental poise. This influence is especially likely to occur when one meditates long over matters that arouse apprehensive anguish. Gradually and insidiously, under these circumstances, egoistic emotions assert themselves until they pervade the entire content of the mind.

Now there is a group of pacifists in whom egoism has played a dominating rôle in the organization and fixing of their mental complexes. The members of this group have been conspicuous and influential because, in other matters, they have displayed ability, and some of them have achieved reputation. Indeed, it is largely because of the distinction which they have won that their thinking concerning the ethics of war has gone astray. Their emotions of self-esteem have become so swollen that they have obstructed the paths which nervous impulses underlying thinking must traverse. These people do not see enough in pacifism to puzzle them and stimulate reflection outside their organized systems of thoughts. In their placid self-assurance, the most complex problems with which the world was ever confronted are perfectly simple and clear. These pacifists bear with marvelous fortitude the threatened loss of all that past wars have won. And they face this prospect calmly because of the perfect confidence in their own judgment which self-esteem has imparted. They bathe in the waters of self-complacency and luxuriate in the delightful serenity that egotism imparts, and which causes one to feel that "the diviner part of one's nature is paramount."

Evidence of the exaggerated ego, which, at times, equals that of megalomaniacs, is given in the writings of some of these pacifists. We are informed, for example, by "Thirteen Conscientious Objectors and Their Champions," in one of our leading journals, that "in the evolution of the human mind we discover a gradually widening hiatus between physical competence and intellectual moral competence." And then the thirteen signers of this remarkable communication modestly admit, "We possess only intellectual and moral competence."

These same thirteen men apparently represent a distinctive class of humanists of unusual clarity of vision, whose wisdom society is in danger of losing. For, the communication continues: "The tremendous enterprise of recreating out of bloody chaos some new, reinspired internationalism will be the order of the day. Who is better fitted for that reconstructive task than those humanists now in imminent danger of being bullied out of existence because their visions and their faiths extend beyond the time of bloody chaos."

This peculiar, unappreciated "vision" is a common characteristic of those whose mental poise deviates slightly from normal sanity. The full current of self-esteem, which saturates their mental complexes, controls thought and action. Even one of the "sanest" of this class of pacifists, one of national reputation whose ability in social service is widely recognized, is convinced of the "spiritual worth" and clearer vision of the pacifists who, "seeing that which is invisible to the majority of his fellow men, still asserts his conviction and is ready to vindicate his spiritual value over against the world."

Vision, however, is not the only asset of these pacifists against the intellectual bankruptcy of the world. They alone keep their minds flexible, their reason clear and unprejudiced. "Is there no place left, then," one of their prominent writers cries, "for the intellectual who cannot yet crystallize, who does not dread suspense, and is not yet drugged with fatigue? . . . The intellectual who retains his animus against war will push out more boldly than ever to make his case solid against it. . . . His mind will continue to roam widely and ceaselessly. The thing he will fear most is premature crystallization."

This unclouded vision and uncrystallized mind of pacifists catches vistas of truth which the myopic and inflexible minds of less gifted "intellectuals" do not glimpse. Emotions which confuse the meagerly endowed do not distort the view of "ardent spirits, the lovers of mankind." This is obvious, since "an intellectual class that was wholly rational," as a writer of national reputation styles pacifists, would have accepted the plan of the pacifists and "called insistently for peace and not for war." To explain "the American intellectual" who "has been rational neither in his hindsight nor his foresight . . . we must look beneath the intellectual reasons to the emotional disposition. It is not so much what they thought as how they felt that explains our intellectual class."

Finally, these self-assertive pacifists have the same close communion with God and divine guidance that the German kaiser enjoyed, until the recent defeat of his armies. And they have the same inside information regarding divine approval of their plans. Since God agrees with them, his wisdom is clearly demonstrated, and all that is necessary is to accept his cooperation. A pacifist, writing in a prominent journal, and obviously quite familiar with God's views, puts the crucial question: "Have you the nerve to stand alone against the mob, to look sentimental savagery in the face and say No? Come on then. You who have the courage and the vision to be the cowards and fools of God—fall in!"

Intimacy with the Giver of wisdom, and possession of absolute truth, are fortunately claimed by few. If they were the majority, society would be a huge open air insane asylum with the sane minority doubtful of their own mental condition. "Cultivation will breed in any man a certainty of the uncertainty of his most assured convictions," Samuel Butler once said, and sanity is not less "sane" than culture.

Mental complexes every one has, and probably it is best that it is so. Social stability requires a certain consistency of belief. When, however, these complexes become isolated and rigid, the thoughts which they produce do not take account of varying circumstances. They are not affected by changed conditions. They do not see distinctions. Then, if in addition, thoughts and opinions are saturated with egoism, their possessor sees through glasses of complacency that distort historical and contemporary facts. These people, when opposed, believe themselves misunderstood and unappreciated, because self-esteem makes their beliefs the center from which truth radiates. Everything is wrong that does not coincide with their egoistic vision. "Considering myself as the instrument of the Lord, without being misled by the views and opinions of the day," the German kaiser once said, "I go my way alone for the prosperity and peaceful development of our fatherland." "Fall in," says the pacifist, "you who have the courage and the vision to be the cowards and fools of God." And the kaiser is known to be a megalomaniac.

The Medical Congresses at Rio de Janeiro

The *Revista Medica del Uruguay* gives an account of the Uruguayan delegation to the congresses at Rio de Janeiro which had to contend with the epidemic of influenza that prevailed in the city at the same time. The first ceremony was the inauguration of the new Facultad de Medicina, a splendid structure, only part of which is completed, but it is enough to house the medical school. Dr. A. de Castro related the history of the old and the new medical school, and the dean of the Montevideo Facultad de Medicina broached the project of the publication by all of a great practical manual of South American pathology, to be collaborated in by all the countries represented at the congress, the scientific institutions of Brazil to have charge of the organization of the necessary work. This project was officially approved later by the congress, the work to be

known as the "Tratado de Patologia Sudamericana." The inaugural meeting of the congress was held, October 12, in the Teatro Municipal, Prof. M. Couto presiding. The congress of dermatology and syphilography passed a resolution of congratulation and applause for Uruguay because it was the first country in South America to adopt prophylactic measures against venereal disease. At the concluding plenary session, a resolution was adopted calling for compulsory vaccination of cattle against anthrax in all the countries represented at the Conferencia de Higiene. Dr. Bachmann, the president of the Uruguayan delegation, invited the next congress to convene at Montevideo, and it was resolved that the committee of organization should be composed of the dean of the Montevideo faculty with the cooperation of the delegates there present. The tenth day after the arrival of the delegation a visit was paid to the Instituto Oswaldo Cruz which is in a suburb, about 20 kilometers from Rio de Janeiro. To one of the assistants, Dr. Machado, who was present, Dr. E. Espiro, in the name of the Consejo de Higiene of Montevideo, presented a tablet dedicated to the memory of Oswaldo Cruz. The festivities and banquets which had been planned for and by the visiting delegations were all abandoned on account of the epidemic.

New German Ordinances for Venereal Disease Control

The following is a translation of the text of two German ordinances with regard to venereal diseases recently published in the Medical Supplement compiled by the Medical Research Committee of Great Britain:

No. 6587. Ordinance for the combating of Venereal Diseases of Dec. 11, 1918. Reichsgesetzblatt, p. 1431.

For the purpose of combating venereal disease the following ordinance is issued:

No. 1. Syphilis, gonorrhea and chancre are venereal diseases within the meaning of this ordinance, irrespective of the question as to what parts of the body are affected by the symptoms of the disease.

No. 2. Any person suffering from a venereal disease in whose case the danger of his (or her) spreading the disease exists may be compulsorily subjected to medical treatment, and more particularly may be taken to a hospital, if this appears to be required, for the purpose of efficiently avoiding the propagation of the disease. Medical (or surgical) action involving serious danger to life or health is not permitted except with the patient's consent. The method for providing the expenses is determined by state law.

No. 3. Any person having sexual intercourse with another, notwithstanding the fact that he (or she) knows, or must assume in the circumstances, that he (or she) is suffering from an infectious venereal disease, is punishable with imprisonment for a period not exceeding three years, unless the general penal law (in view of the special facts of the case) imposes a heavier punishment.

So far as spouses or persons betrothed to one another are concerned, a prosecution is not to take place except on application (on the part of the aggrieved person). The prosecution is barred after the lapse of six months.

No. 4. Any one who medically examines or attends a person suffering from an infectious venereal disease shall give information to such person as to the nature and infectious character of the disease, and as to the fact that the act referred to in No. 3 is a penal offense.

Berlin, Dec. 11, 1918. The Imperial Government,
EBERT, HAASE.
The Secretary of State for the Interior,
DR. PREUSS.

No. 6589. Ordinance in respect of the care to be given to military persons suffering from venereal diseases of Dec. 17, 1918. Reichsgesetzblatt, p. 1433.

By virtue of the decree of the Council of Delegates of the People as to the formation of the Imperial Office for Economic Demobilization (Demobilization Office), dated Nov. 12, 1918 (Reichsgesetzblatt, p. 1304), the following ordinance is issued:

No. 1. (1) The name of any person discharged from the Army or Navy in whose case a venereal disease has been ascertained during the present war shall be notified by the competent military authority to the state establishment for national insurance in the district in which his new or last known place of residence is situated, in order that he may receive further medical care. Any person belonging to the Army or Navy who, without being formally discharged, remains absent from his unit is to be treated like a person discharged from the Army or Navy.

(2) The provision of subs (1) applies, *mutatis mutandis*, to any person who, during the present war, has stood in any relation of contract or service to the belligerent army, or has in any other manner remained with or followed such army.

No. 2. So far as the communications prescribed by No. 1 are not required on medical grounds, the administrative authorities of the Army or Navy may, subject to the consent of the Imperial National Insurance Office, refrain from making them.

No. 3. This ordinance comes into force on the date of its publication.

Berlin, Dec. 17, 1918.
Imperial Office for Economic Demobilization,
KOETH.

Book Notices

PRINCIPLES AND PRACTICE OF INFANT FEEDING. By Julius H. Hess, M.D., Major, M. R. C., U. S. Army, Active Service, Professor and Head of the Department of Pediatrics, University of Illinois College of Medicine. Cloth. Price, $2 net. Pp. 338, with illustrations. Philadelphia: F. A. Davis Company, 1918.

Infant feeding is of two types, natural and artificial. The tendency at the present time is to place the greatest stress on breast feeding and to offer artificial feeding as the logical second choice. Dr. Hess wisely uses almost one half of his book in discussing breast feeding. Although generally known to be the natural and ideal method for the infant, this subject has not received the attention in teaching which it has deserved. It is discussed here in great detail, the author considering explicitly all the possibilities and complications which may arise. He discusses maternal nursing and wet nursing in separate chapters, the latter being one of the most comprehensive that is available on this subject. In the section on artificial feeding the author does not adhere to any individualistic feeding method with fixed formulas; he is more concerned with the presentation of principles—adapting the food to the individuality of the infant rather than to that of the pediatrician. The fourth section concerns the nutritional disturbances. Outside of underfeeding, these are chiefly the idiosyncrasies of the infant to various individual constituents of its diet. The author is direct in his statements and his book will be found readily understandable by any physician who has the fundamental knowledge necessary to the modern practice of medicine. One of its most valuable features is an extensive appendix containing the formulas of the most widely known baby foods, directions for the preparation of various special mixtures and diets, a well illustrated article on the care of bottles and nipples, and numerous hints to answer the many questions with which mothers perplex the general practitioner. This is assuredly one of the most practical books available on infant feeding.

PRINCIPLES OF BACTERIOLOGY. By Arthur A. Eisenberg, A.B., M.D., Director of Laboratories, St. Vincent's Charity Hospital. Cloth. Price, $1.75. Pp. 198, with illustrations. St. Louis: C. V. Mosby Company, 1918.

It is difficult to write in an elementary manner and avoid loose statements. In trying to condense the subject of pathogenic bacteriology to 200 pages for the use of nurses in training, the author has at times not been able to circumvent this difficulty. In general, the material is well chosen for instructional purposes, but it would have been better to expand the discussions of the more common diseases and omit the rarer ones and the essentially animal infections. The paragraph on the paratyphoid group is certainly too brief, while symptomatic anthrax might have been left out. The four sentences on *Bacillus botulinus* do not give a correct impression. The chapters on bacteriologic technic contain well selected and adequate material.

Medicolegal

Delaying Too Long Sending Patient to Eye Specialist

(Beardsley v. Ewing et al. (N. D.), 168 N. W. R. 791)

The Supreme Court of North Dakota affirms a judgment in favor of the plaintiff for $7,933.50, for alleged negligence in the treatment of an injured eye, wherein it appeared that the patient should have been sent to an eye specialist at least twenty-four hours before he was. The court says that the plaintiff, while engaged at his occupation as an engineer, December 19, got a cinder in one of his eyes. At about 11 o'clock that night, after he had completed his run, he endeavored to remove the cinder by taking an ordinary match, burning the head off, and attempting to brush the cinder out with the charred end of the match stick. Failing in this, the next morning he went to the offices of the defendants, where the cinder was removed. His eye was not bandaged, and when the defendants offered him a prescription for a boric acid solution, he replied that he could get it himself without a prescription. On the day following he went again to the offices of the defendants. In treating the eye this time a bandage was applied and the plaintiff was given a prescription for a solution of argyrol. He returned at about 8 o'clock on the morning of the 22d, when he was told by one of the defendants that he should go at once to the head eye surgeon of the railway company in Minneapolis, where, at about noon of that day, the eye was promptly treated. The scar resulting from the operation, which was rendered necessary by the infection, was located directly over the pupil, and resulted in total blindness in the affected eye.

The principal error relied on for a reversal of the judgment was the refusal of the trial court to direct a verdict for the defendants, on the gound of the insufficiency of the evidence to establish the negligence of the defendants. There was considerable conflict in the testimony as to the time when the infection on the eyeball became visible; also as to whether or not the plaintiff had been advised early in the progress of the treatment that he should go to a specialist. So far, however, as the evidence on these matters might be regarded as having a bearing on the verdict of the jury, this court must, on this appeal, regard the plaintiff's version as being true. Moreover, it should be observed that the circumstances strongly supported his version as to the early appearance of the infection. Both the plaintiff and his wife testified that there was a small yellowish spot on the eyeball on the morning of the 21st, and both testified that one of the defendants stated on that morning that the eye was infected; that the defendant also wrote a letter, in the following May, to help out in an insurance matter, stating that the eye showed some infection, December 20. The Minneapolis specialist testified that the infection from which the plaintiff was suffering was in the nature of a hypopyon ulcer, or one which forms pus in the anterior chamber of the eye; that the development of an ulcer of the particular class to which this belonged is ordinarily very rapid; and that the proper course for a general practitioner, after infection has been discovered, is to send the patient to a specialist, unless the pactitioner has confidence enough in himself to take care of it. He also testified that a general practitioner would be treading on pretty dangerous ground in taking chances on the spread of an infection after an ulcer of the cornea has developed. Considering his testimony in the light of the facts, including the fact that the infection first appeared, not over the pupil of the eye, but a little below, the court is satisfied that there was evidence from which the jury was warranted in finding the defendants negligent in not using the proper treatment at the proper time. They were not protected by the rule, which they sought to invoke, that a physician is held only to the exercise of the skill and learning of the profession generally in the community in which he practices, because, according to their own testimony, they recognized the necessity of more expert treatment than general practitioners were capable of giving. Under the circumstances, the advice to go to a specialist should have been forthcoming at least twenty-four hours before it was given; and the proper degree of care was not exercised in prescribing only boric acid and argyrol, when the danger of the spread of such an infection and the inefficiency of such disinfectants were known.

The court also holds that a layman is competent to testify to the size of an abscess which can be observed with the naked eye; and that certain improper suggestions of liability insurance were not reversible errors.

Unsuccessful Treatment of Fracture Without Roentgenogram

(De Bruine v. Voskuil et al. (Wis.), 169 N. W. R. 288)

The Supreme Court of Wisconsin not only reverses a judgment for $1,800 damages obtained by the plaintiff for injuries alleged to have been sustained by reason of negligence on the part of the defendants in the treatment of a fracture of the tibia of the plaintiff's left leg about 2 inches below the knee, but remands the case with directions to dismiss the plaintiff's complaint on the merits. The court says that the plaintiff was a woman 49 years old. The accident occurred, November 5. The defendants reduced the fracture and placed it in a fracture box in the ordinary way with Buck's extension, attaching a weight of 26 pounds. December 20, defendant Voskuil removed the apparatus, a part of the weight having been taken off a week previously; and he attempted to ascertain whether or not union had taken place, but desisted on account of complaints made by the plaintiff. He advised her to use her leg. He called again, December 27, and then discovered that there was no union of the fragments. He then advised an operation for the purpose of fastening the ends of the bones together. The plaintiff was taken to a hospital in Sheboygan, where another surgeon performed an operation, ten weeks after which the plaintiff returned to her home, with the bone united perfectly, but her left ankle stiff. It was undisputed that prior to the operation there was never any exudate on the ends of the bones.

There was no evidence to show that the bones were not properly placed in apposition to each other, and there was no evidence to show that the weights were not properly attached in the usual and customary way. If an expert could not say that the treatment was improper, on what ground could the jury arrive at that conclusion? The fact being established that there was no union, it was assumed apparently that it must be due to some negligent treatment. The evidence did not sustain that view. The entire case here rested on the testimony of a physician to the effect that he would have treated the fracture in another way. Physicians are not compelled to choose at their peril between two accepted methods of treatment. Statements of experts that they would have treated the fracture in some other way are incompetent.

The trial court correctly instructed the jury that:

> A physician and surgeon is not an insurer or guarantor of a cure. If the treatment in this case was such as physicians or surgeons of ordinary knowledge and skill of the same school of medicine, and practicing in the same vicinity, would have exercised under the same or similar circumstances, then the fact that a bad result followed from the treatment, if you find that that was the fact, is not in itself alone sufficient to charge the defendants or either of them with negligence.

The difficulty seemed to be that the trial court entirely ignored the undisputed fact that the failure of the fragments to unite was due to some cause with which the treatment administered by the defendants had nothing whatever to do; that is, the failure of nature to set up the healing process.

But there was one claim of negligence as to which there was sufficient evidence to sustain the finding of the jury, and that was that defendant Voskuil was negligent in not discovering the fact that the injury had not healed at the time of the removal of the extension apparatus, and in the defendant's further failure to call on the patient for seven or eight days thereafter. However, there was no evidence showing that this in any way contributed to or was a factor in producing the injury complained of.

At the time of the plaintiff's injury there was no roentgenographic apparatus at or near the place where she lived, and there was no suitable electrical current available. Neither did it appear from the testimony that, had a roentgenogram been taken during the treatment, it would have shown that

no callus was being formed at the point of fracture. Nor was there cited any case holding that it is as a matter of law negligence for an attending physician and surgeon to fail to avail himself of the use of a roentgenographic apparatus in the case of fracture, and on the facts shown here this court cannot so hold, particularly as it was comparatively easy to determine whether or not the ends of the bones were in apposition. It is clear that under the facts in this case the failure to procure a roentgenogram during the course of treatment did not amount to negligence or unskilful treatment.

Validity of Contract Not to Practice in County

(Rowe v. Toon (Iowa), 169 N. W. R. 38)

The Supreme Court of Iowa, in affirming a decree enjoining the defendant from practicing medicine and surgery in a county from which he had agreed to retire from practice for a period of ten years, and relinquish his business to the plaintiff, for a consideration of $1,000, declares it cannot say as a matter of law that the restriction, either as to territory or to time, was unreasonable. It is not an unheard of or very unusual thing for a well-established physician of good repute to enjoy a practice coextensive with his county, and even a young physician, whose present practice is comparatively limited, both in the number of his patients and in the area in which he finds his patients, may yet reasonably hope, if well qualified, to extend his practice much beyond the immediate vicinity of his office or home. The contract sued on not being unreasonable on its face, the plaintiff was not required to negative the existence of possible conditions rendering it void or voidable.

The position could not be successfully maintained, which the defendant took, that, unless the seller is disposing of some tangible property, like an office or residence or stock of instruments, medicines or supplies, used by him in and about his business, there is nothing to support the ancillary agreement to retire from his practice in that neighborhood. It is too clear for argument that a person having an established practice as a lawyer or physician may sell his business, and by binding himself to refrain from all competition with his purchaser for a reasonable time, and within reasonable territorial limits, he can vest his purchaser with a valuable opportunity, and that such an agreement is not to be condemned or avoided as without consideration, or as being forbidden by any sound principle of public policy. True, the lawyer cannot (in this way) sell his clients, or the physician sell his patients or their individual patronage or their individual good will; yet he can, by such sale and by an honest observation of his covenant not to embarrass his purchaser by competition, confer on him a real advantage and hasten the acquisition of business by him on his own account, and the courts should be slow to establish any rule or precedent by which any person can make a pretense of such sale, and, having received the stipulated price therefor, immediately repudiate its obligation and take from his purchaser the sole and only consideration on which he parted with his money. Had the defendant remained in the county and withdrawn from practice therein as he agreed to do, the plaintiff would have had no ground for complaint.

Nor was the contract between the parties and the payment of money in pursuance of an unlawful conspiracy in restraint of trade, as was argued, because, when the plaintiff returned to complete the deal with the defendant two months after it was made, and found another physician had settled in the town, the agreement was modified or supplemented by one for a nominal partnership of the plaintiff with the defendant, and for the defendant to remain a while longer to introduce the plaintiff to the people and aid him in getting started.

Neither was there any merit in the defense that the plaintiff had never complied with the statutes of the state regulating the practice of medicine, and the court should deny him any relief, because he had mistakenly filed his certificate from the state board of medical examiners for record with the clerk of the court for that county, instead of with the recorder of the county. It might be that by such mistake, though committed without conscious wrong, the plaintiff technically became chargeable with a misdemeanor, and rendered himself unable to enforce by law the collection of fees earned before the mistake was corrected; but from the outset he possessed the right to correct the filing. It did not lie in the mouth of the defendant, having sold his practice and received his pay for it, to declare his contract void because the plaintiff, in entering on the practice so purchased, mistakenly filed his certificate in the wrong office.

As to the sale of a professional practice, attacked ethically, it is answered that, while there has been some apparent divergence, and perhaps there have been some inconsistencies, in the practical application of the rule to particular cases, there is no substantial conflict anywhere on the proposition that a professional practice is a lawful subject of sale, and that equity will protect the purchaser against the competition of a seller who has contracted to surrender the good will of his business to the buyer.

Unsuccessful Operation for Cataract

(Curran v. Holt (Maine), 104 Atl. R. 579)

The Supreme Judicial Court of Maine overrules a judgment of nonsuit in this action against a surgeon for alleged malpractice in connection with an unsuccessful operation for cataract. The court says that the plaintiff was treated by the defendant from November, 1911, until January, 1913. Jan. 28, 1913, the defendant performed an operation for cataract on the plaintiff's right eye. The operation was not successful, and sight was not restored. As the left eye subsequently became involved from what was apparently sympathetic inflammation, the right eye was removed by the defendant, April 14, 1913. This removal, however, did not allay the trouble with the left eye, and, after further treatment for several months, vision in that eye was also lost. The plaintiff in his writ alleged many negligent acts on the part of the defendant, which he said might have produced the blindness. These he summarized in his brief as follows:

> Such as general negligence; that the incision on the eyeball of the right eye was within what is called the danger zone; that the defendant did not make a proper diagnosis of the eyes, and did not understand the real condition of the eyes before he operated; that he did not use proper methods in preparing the eye for the operations, and in treating the eyes before and after the operations of Jan. 28 and April 14, 1913.

The evidence introduced by the plaintiff, including that of an eye specialist, failed utterly to substantiate a single one of the many claims set forth in the writ. True, the operation proved unsuccessful, and on that fact alone the plaintiff seemed to rest his case. But that was not sufficient to establish negligence on the part of the operator. The surgeon cannot insure recovery, and the testimony showed that, with all due care, loss of sight results in 5 or 6 per cent. of the cases in operations for cataract, depending in large measure on the condition of the patient. It was shown here that the plaintiff's trouble was of long standing. His vision had been more or less affected for forty years.

It was not claimed that the defendant did not possess the ordinary skill of members of his profession in like situation. The law required him to exercise that ordinary skill, and to use reasonable care and diligence in his treatment of the case, and his best judgment in the application of that skill to the case in hand. The evidence did not show that the defendant failed to measure up to the legal requirement in a single particular, either in the care and treatment prior to the operations, in performing the operations, or in the care and treatment subsequent thereto. The defendant was not called on to offer any testimony. A jury would not have been justified in drawing from the evidence an inference of legal liability on the part of the defendant, and therefore the nonsuit was properly ordered by the presiding justice.

Blood Pressure in Shock.—Clinical and experimental studies have demonstrated that a systolic pressure of 90 mm. Hg is the limit of safety for individuals suffering from the the effects of shock if aggravated by hemorrhage. This complicating loss of blood must be assumed to have occurred in all wounded men showing the shock syndrome in order to give the maximum opportunity for recovery to reach individual.—*Review of War Surgery and Medicine.*

Society Proceedings

COMING MEETINGS

American Medical Association, Atlantic City, June 9-13.

American Academy of Medicine, Atlantic City, June 9-10.
American Association of Anesthetists, Atlantic City, June 9-10.
Am. Assn. of Genito-Urinary Surgeons, Atlantic City, June 16-17.
Am. Assn. of Indust. Physicians and Surgeons, Atlantic City, June 9.
Am. Assn. of Pathologists & Bacteriologists, Atlantic City, June 16-17.
American Association of Physicians, Atlantic City, June 16-17.
American Climatological & Clin. Assn., Atlantic City, June 16-18.
American Dermatological Association, Atlantic City, June 16-18.
American Gynecological Society, Atlantic City, June 14.
American Medico-Psychological Assn., Philadelphia, June 17-19.
American Neurological Association, Atlantic City, June 16-18.
American Ophthalmological Society, Atlantic City, June 16-17.
American Orthopedic Association, Atlantic City, June 16-17.
American Otological Society, Atlantic City, June 16-17.
American Pediatric Society, Atlantic City, June 16-18.
American Proctologic Society, Atlantic City, June 7-9.
American Psychopathological Association, Atlantic City, June 19.
American Society of Tropical Medicine, Atlantic City, June 16-17.
American Surgical Association, Atlantic City, June 16-18.
American Therapeutic Society, Atlantic City, June 6-7.
Arizona Medical Association, Globe, June 2-3.
Arkansas Medical Society, Little Rock, May 20-22.
Assn. of American Peroral Endoscopists, Brooklyn, June 5.
Congress American Phys. & Surgs. of N. A., Atlantic City, June 16-17.
Connecticut State Medical Society, Bridgeport, May 21-22.
Florida Medical Association, Miami, May 20-22.
Illinois State Medical Society, Peoria, May 20-22.
Iowa State Medical Society, Des Moines, May 7-9.
Kansas Medical Society, Ottawa, May 7-8.
Maine Medical Association, Portland, June 18-19.
Massachusetts Medical Society, Boston, June 3-4.
Michigan State Medical Society, Detroit, May 21-22.
Mississippi State Medical Association, Hattiesburg, May 13-14.
Missouri State Medical Association, Excelsior Spgs., May 26-28.
National Tuberculosis Association, Atlantic City, June 12-14.
Nebraska State Medical Association, Lincoln, May 19-21.
Nevada State Medical Association, Lake Tahoe, June 20-21.
New Hampshire Medical Society, Concord, May 14-15.
New Jersey Medical Society, Spring Lake, June 24-25.
New York State Medical Society, Syracuse, May 6.
North Dakota State Medical Association, Grand Forks, June 18-19.
Ohio State Medical Association, Columbus, May 6-8.
Oklahoma State Medical Society, Muskogee, May 20-22.
Rhode Island Medical Society, Providence, June 5.
Texas State Medical Association, Waco, May 13-15.
Western Roentgen Society, Cleveland, June 5-6.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Physiology, Baltimore

April, 1919, **48**, No. 3

*Plethysmographic Study of Shock and Stammering. S. D. Robbins, Cambridge, Mass.—p. 285.
*Intravascular Fat in Relation to Experimental Study of Fat Embolism in "Shell Shock". P. S. McKibben, Baltimore.—p. 331.
*Action of Potassium Cyanid on Oxygen Consumption. II. Action on Planaria. L. H. Hyman, Chicago.—p. 340.
*Effect of Cyanids on Carbon Dioxid Production and on Susceptibility to Lack of Oxygen in Planaria Dorotocephala. C. M. Child, Chicago.—p. 372.

Plethysmographic Study of Shock and Stammering.—Thirteen graduate students or college seniors and ten stammerers were the subjects in Robbins' experiments. He found that shock and stammering are accompanied in every case by marked vasoconstriction. In a few cases this is preceded by a short, inconspicuous rise in the plethysmogram which is probably caused by arm movement. Vasoconstriction does not begin until about three seconds after the stimulus is given. Long stimuli are accompanied by greater vasoconstriction and slower recovery than are short stimuli. Compound stimuli are accompanied by greater vasoconstriction and slower recovery than are either long or short stimuli. The more intense the stimulus and the more unexpected the stimulus, the greater is the vasoconstriction, the more rapid the vasoconstriction and the slower the recovery. All the tables show marked individual differences even on the same record. The greater the vasoconstriction, the more is verbal imagery impaired.

Those subjects who experience the greatest vasoconstriction during shock and stammering also require the longest time for recovery. Marked peripheral vasoconstriction takes place more rapidly than does slight vasoconstriction. Stammerers as a class experience slightly greater vasoconstriction in shock than in stammering. The time of recovery is practically the same in both stammering and in shock. Those subjects in whom the fear of stammering is pronounced, however, experience greater vasoconstriction and slower recovery in stammering than in shock. Vasoconstriction continues throughout the stammering interval; if any vasomotor change accompanies normal speech, it is vasodilatation in a large majority of periods. Therefore, Robbins concludes that stammering and shock are induced emotional disturbances accompanied by the same vasomotor changes. His experiments confirm Bluemel's theory that stammering is caused by transient auditory amnesia in the auditory speech center brought on by cerebral congestion.

Intravascular Fat in Experimental Shock.—Free fat droplets, stainable with sudan III, scharlach R or osmic acid were found by McKibben in the blood vessels of the brain, lungs and other organs of the dog and the rabbit in considerable number. In the cat, although present, this intravascular fat seemed to occur in smaller amount than in the dog or the rabbit. Observations on dogs indicated that there were no quantitative or qualitative differences between the fat, recognized histologically, in the vessels of normal control animals and that demonstrated in dogs subjected to concussion or prolonged anesthesia. In cats it seemed probable that a rich fat diet increased the incidence and amount of intravascular fat demonstrated histologically.

Action of Potassium Cyanid on Oxygen Consumption.—An extensive review of the literature on the chemical, physiologic and pharmacologic action of the cyanids is given by Hyman. All of this literature supports the generally accepted opinion that the cyanids depress physiologic processes in general, and rate of oxygen consumption in particular. A large number of experiments are reported which prove that the oxygen consumption is decreased in the presence of potassium cyanid. The amount of decrease depends on the concentration of the cyanid, ranging from 80 to 90 per cent. in $\frac{1}{2,000}$ molecular potassium cyanid to 5 to 15 per cent. in $\frac{1}{2,000,000}$ molecular solutions. The decrease is independent of muscular or ciliary activity. It is entirely reversible, the animals being wholly uninjured by the cyanid and returning to their normal rate of oxygen consumption when the cyanid is washed out of them.

Effect of Cyanids on Metabolism.—The results presented by Child are far less striking than Hyman's data on the effect of cyanids on oxygen consumption, and are regarded as merely supplementary to them. Hyman measured oxygen consumption in the presence of cyanids, while Child has been concerned almost wholly with what remains of the effect after return of the animals to water. While all the data agree as regards the effect of potassium cyanid, they permit only certain general conclusions concerning quantitative differences in susceptibility; but these, so far as they go, are in complete agreement with the conclusions drawn from experiments of other sorts. Since cyanids decrease both oxygen consumption and carbon dioxid production, Child believes that the increase by cyanid in susceptibility to lack of oxygen can mean only that cyanid and lack of oxygen are to some extent additive in their action on living protoplasm, that is, their action must be in certain respects identical or similar in character.

American Journal of Public Health, Boston

April, 1919, **9**, No. 4

Infant Mortality in United States During One Year of War. F. S. Crum, Newark, N. J.—p. 241.
Present Status of Public Health Administration. O. Dowling, New Orleans.—p. 255.
Presence of Spore-Bearing Aerobic Gas-Forming Bacillus in Baltimore City Drinking Water. C. L. Ewing, Baltimore.—p. 257.

Milk Industry and the War. C. E. North, New York.—p. 259.
Opportunities for Contact Infection. G. T. Palmer, Washington, D. C. —p. 267.
Income and Infant Mortality. J. C. Lathrop, Washington, D. C.—p. 270.
Plan for More Effective Federal and State Health Administration. F. L. Hoffman, Newark, N. J.—p. 275. Concluded.
Problems of Canning. W. D. Bigelow, Washington, D. C.—p. 283.

Boston Medical and Surgical Journal

April 17, 1919, **180**, No. 16

Lest We Forget. Study of Health Insurance in Relation to History of Two Countries Where it Has Found Most Favor. A. F. Downing, Cambridge, Mass.—p. 433.
Köhler's Disease of Tarsal Scaphoid in Children. F. W. O'Brien, Boston.—p. 445.
*Report of Influenza Epidemic and Experience in Use of Influenza Vaccine "B" at Wrentham State School, Wrentham, Mass. G. L. Wallace, Wrentham.—p. 447.
Pneumonia and Empyema. H. Gray, Camp Devens, Mass. To be continued.

Use of Influenza Vaccine "B" in Influenza Epidemic.—The total number of cases of influenza at the Wrentham State School during the months of September and October was 740, with a mortality of twenty-seven cases. The epidemic was brought to the institution by two employees who had been away from the school for a few days and returned to the institution ill. Seventy-one employees were vaccinated. Out of this number five afterward contracted the influenza. Fifty-eight employees were not vaccinated, and out of this number thirty-eight contracted the disease. In a building in which lived 156 inmates, twenty-eight inmates were vaccinated. Out of these twenty-eight vaccinated persons, only one contracted the influenza. Of the 128 unvaccinated cases in this building, all equally exposed with the vaccinated cases, sixty-four contracted the disease.

Bulletin of Johns Hopkins Hospital, Baltimore

April, 1919, **30**, No. 338

Degeneration Granules and Vacuoles in Fibroblasts of Chick Embryos Cultivated in Vitro. W. H. Lewis, Baltimore.—p. 81.
*Ovarian Pregnancy: Report of Case. A. W. Meyer and H. M. N. Wynne, Baltimore.—p. 92.
Granville Sharp Pattison (Anatomist). W. S. Miller, Madison, Wis. —p. 98.
*Pathology and Bacteriology of Fatal Influenza Cases at Camp Devens, Mass. S. W. Wolbach, Boston.—p. 104.

Ovarian Pregnancy.—The authors review the literature of ovarian pregnancy and cite one case occurring in a woman, aged 37, a septipara, who was operated on for ruptured extra-uterine pregnancy. A very full description is given of the histology of the specimen.

Bacteriology and Pathology of Influenza Cases.—The influenza bacillus was found by Wolbach in pure culture in one or more lobes in nine of the twenty-three cases from which cultures were made. In sections of lungs from cases in which no cultures were made, influenza bacilli were found apparently pure in two cases, and mixed with other organisms in one case. In one case no influenza bacilli could be found. There were two cases of lobar pneumonia and one case with gangrene of the lung in which no influenza bacilli were found. Of twenty-eight cases by cultural and histologic methods combined, *B. influenzae* was demonstrated in twenty-three cases, and in fourteen of these in pure culture. It is worthy of note that the bacilli were present in pure culture in a number of the late cases. In a number of cases in which influenza bacilli were not found in the lungs by culture, they were found in cultures from the sinuses of the skull or from the middle ear. An analysis of bacteriologic results shows that the bacteriology of the lungs was mixed in a significant number of cases, but it also shows that the one organism occurring with greatest constancy, and in practically every case, was the influenza bacillus. The pneumococcus, streptococcus, pneumobacillus, and the various micrococci encountered were secondary invaders. However, Wolbach finds it extremely difficult to account for the epidemiologic features of this pandemic if the influenza bacillus is accepted as the cause. The condition of the lungs indicated clearly that these were cases of specific infection with a distinctive pathology in its early stages. The occurrence of the influenza bacillus in pure cultures in the early stages is a fact of importance in the consideration of the etiology of influenza and, Wolbach believes, firmly establishes the existence of influenzal pneumonia.

Canadian Medical Association Journal, Toronto

April, 1919, **9**, No. 4

"The Policy of the Ostrich." J. G. Adami, Montreal.—p. 289.
Simple Goiter. M. H. V. Cameron, Toronto.—p. 302.
Venereal Diseases from Preventive Aspects. G. Bates, C. A. M. C. —p. 310.
Causes and Consequences of Disturbances of Respiratory Rate and Rhythm. J. C. Meakins, Montreal.—p. 319.
Two Cases of Spina Bifida. M. O. Klotz, Ottawa.—p. 329.
Anatomic and Bacteriologic Findings in Recent Epidemic Pneumonia. H. Oertel, Montreal.—p. 339.
So-Called Trench Mouth and Other Manifestations of Vincent's Disease as Spreading Infection in Canada. G. F. Laughlen, W. P. Warner and H. A. Holmes, Toronto.—p. 345.

Colorado Medicine, Denver

April, 1919, **16**, No. 4

*Diagnosis of Fractures of Spine. J. B. Harwell, Colorado Springs. —p. 78.
Work of Army Tuberculosis Boards. O. M. Gilbert, Boulder.—p. 83.
Surgical Treatment of Acute Empyema. L. Freeman, Denver.—p. 88.
Colorado Physician in the Argonne. B. A. Filmer, Colorado Springs. —p. 90.
Two Cases of Uremia Mistaken for Insanity. C. S. Bluemel, Denver. —p. 94.

Diagnosis of Fractures of Spine.—Hartwell emphasizes the fact that compression fractures are caused by hyperflexion of the spine and process fractures from direct violence; that sharply localized, constant pain at the site of fracture is the most common subjective symptom; that localized tenderness with a disalinement of the spinous processes at the same level is a pathognomonic sign of compression fracture, and that confirmatory roentgenograms must be taken in the lateral as well as in the anteroposterio positions. When patients who complain of backache following accidents are carefully and completely examined, as is suggested by Hartwell, he says the diagnosis of fracture of the spine will become not uncommon and that the diagnosis of contusion of the back, sprain of the back and rupture of the interspinal ligaments will be less frequent, just as the diagnosis "nervous dyspepsia," so common a few years ago, with a more careful study of the patients, made possible by advances in roentgenologic technic, has now become rare, and cases of ulcer of the stomach and duodenum, chronic appendicitis and gallbladder disease are much more frequent.

Delaware State Medical Journal, Wilmington

January, February and March, 1919, **10**, No. 1

Typhoid Fever. H. W. Briggs, Wilmington.—p. 7.
Gastroptosis and Visceroptosis Combined. G. C. McElfatrick, Wilmington.—p. 12.
Drug Addicts. W. H. Kraemer, Wilmington.—p. 17.

Florida Medical Association Journal, St. Augustine and Palatka

April, 1919, **5**, No. 9

Infarction. W. A. Stanley, Lakeland.—p. 158.
Carrel-Dakin Solution. D. T. Smith, Daytona.—p. 160.
Lethargic Encephalitis: Report of Case. R. R. Sullivan, Lakeland. —p. 160.

Georgia Medical Association Journal, Atlanta

March, 1919, **7**, No. 11

Gain in Weight of Five Pounds a Week. W. W. Blackman, Atlanta. —p. 209.
Precancer and Cancer. M. B. Hutchins, Atlanta.—p. 212.
Question of Diagnosis in Case of Patient Complaining of "Indigestion." G. M. Niles, Atlanta.—p. 214.
Field of Neurologic Surgery. Y. C. Lott, New York.—p. 216.

Indiana State Medical Association Journal, Fort Wayne

April 15, 1919, **12**, No. 4

*Clinical Significance of Blood in Urine. H. O. Mertz, La Porte, Ind. —p. 93.
*Plea for Prenatal Care. C. O. McCormick, Indianapolis.—p. 98.
Sarcoma of Kidney in Ten Months Old Child. J. Y. Welborn, Evansville, Ind.—p. 105.

Clinical Significance of Blood in Urine.—Abstracted in THE JOURNAL, Nov. 30, 1918, p. 1855.

Plea for Prenatal Care.—Abstracted in THE JOURNAL, Nov. 30, 1918, p. 1855.

Iowa State Medical Society Journal, Des Moines

April 15, 1919, **9**, No. 4

Practice of Medicine in Iowa from 1840 to 1850. D. S. Fairchild, Clinton, Iowa.—p. 108. Part Second.
Relation of Doctor to Iowa Workmen's Compensation Service. O. J. Fay, Des Moines.—p. 120.
Shall We Control Communicable Diseases? D. C. Steelsmith, Iowa City.—p. 125.

Journal of Cancer Research, Baltimore

April, 1919, **4**, No. 2

Effects of Roentgen Ray Irradiation on Living Carcinoma and Sarcoma Cells in Tissue Cultures in Vitro. N. Kimura, Chicago.—p. 95.
Origin of Tumors in Mice. IV. Tumor Incidence in Later Generations of Strains with Observed Tumor Rate. A. E. C. Lathrop and L. Loeb, St. Louis.—p. 137.
Somatic Mutations as Factor in Production of Cancer: Review of Hansemann's Theory of Anaplasia. R. C. Whitman, Denver.—p. 181.
Cost of Cancer in Norway. F. G. Gade, Norway.—p. 203.

Journal of Laboratory and Clinical Medicine, St. Louis

April, 1919, **4**, No. 7

Lethargic Encephalitis: Editorial Comment. V. C. Vaughan, Ann Arbor, Mich.—p. 381.
*Epidemic Cerebrospinal Meningitis at Camp Cody. F. H. Lamb, Camp Cody, N. M.—p. 387.
*Rôle of Tuberculosis in Dementia Praecox. H. I. Gosline, Worcester, Mass.—p. 397.
*Recent Epidemic of Influenza and Bronchopneumonia at Easton Hospital, Easton, Pa. A. L. Kotz, Easton.—p. 424.
Detection of Small Quantities of Trichlorotertiary Butyl Alcohol (Chloretone) in Fluids and Tissues of Animal Body. T. B. Aldrich, Detroit.—p. 425.
Benign Tumors of Intestine; Report of Nine Cases. G. L. Rohdenburg, New York City.—p. 434.
*Picramic Acid as Standard in Colorimetric Determination of Nitrogen by Nessler's Method. G. Egerer, and F. Ford, Minneapolis.—p. 439.
Peroxidase Reaction with Sodium Nitroprussid and Benzidin in Blood Smears and Tissues. E. W. Goodpasture, Chelsea, Mass.—p. 442.
Lead Peroxid Reaction with Spinal Fluid. E. Steinfield, Philadelphia.—p. 445.
*New Methods for Preserving Soy-Bean Urease. G. M. Robinson and C. J. Oppenheim, Chicago.—p. 448.
Type of Stethoscope Receiving Bowl for Use in Teaching Medical Students. J. A. Higgins, Chicago.—p. 450.
Type of Continuous Threaded Aneurysm Needle. J. A. Higgins, Chicago.—p. 453.

Epidemic Cerebrospinal Meningitis at Camp Cody.—Two points in Lamb's paper are emphasized strongly: 1. The dissemination of cerebrospinal fever depends ultimately on the presence of meningococcus carriers, although the existence of a nonspecific nasopharyngitis is undoubtedly a predisposing factor in the development of the individual case. 2. The period of greatest incidence of meningitis may be expected when the more common respiratory infections are at their height, owing to the fact that in all of them, nasopharyngitis is a primary and predisposing factor. The greatest number of cases of the latter develop when living conditions are at their worst.

Rôle of Tuberculosis in Dementia Praecox.—This paper supplements one abstracted in THE JOURNAL, Feb. 22, 1919, p. 605. It is an extended account of seventeen cases mentioned there, in which the connection between the mental and physical disease was so close that certain writers have considered the one as due to the other. This again opens the question as to the possibility of splitting the great dementia praecox group into two main groups on the physical side: those of toxic-infectious nature, often tuberculous, and the true degenerative psychosis. This grouping has nothing to do with the mental groupings. A wide field for investigation is outlined.

Influenza and Bronchopneumonia at Easton Hospital.—The bacterial findings obtained by Kotz in material from the lungs of thirty influenza and bronchopneumonia patients (mostly bronchopneumonia) either in the form of sputum, pleuritic fluid, lung tissue by aspiration or postmortem, were as follows: The influenza bacillus was found in fifteen; the pneumococcus (one type or another) in twenty-seven; a small diplococcus, forming short chains, in fourteen; streptococci of various types in eight; and a short thick bacillus in twenty-four. The bacillus is the micro-organism to which Kotz draws attention. It is morphologically identical with *Bacillus pestis*, responds to the crucial test of Albrecht and Ghon, and is highly pathogenic for laboratory animals; therefore Kotz believes it to be, at least, closely related to the *B. pestis*. From its frequent presence in this disease, it would appear to have some significance.

Nessler's Method of Nitrogen Determination with Picramic Acid.—For clinical nitrogen determination, Egerer and Ford suggest the blood sugar standard: picramic acid. (One-tenth gm. of picramic acid and 0.2 gm. of anhydrous sodium carbonate are dissolved in 30 c.c. of warm distilled water and diluted to 1 liter.) The color is practically permanent. All color comparisons in which Nessler's test can be used can just as readily be made by picramic acid. The main advantages are in the saving of time and the absence of disturbing factors. During the influenza epidemic the authors made simultaneous analysis of a high number of bloods. In general, the findings with picramic acid as a standard are practically the same as with the ammonium sulphate standard.

New Methods for Preserving Soy-Bean Urease.—Soy-bean extracts for the clinical determination of urea are preserved by Robinson and Oppenheim by the use of 0.25 per cent. neutral gum camphor. The period of activity of the enzyme in aqueous preparations is prolonged materially without complicating the technic for clinical determinations. Glycerinized extracts of the enzyme afford active and stable wet preparations which lend themselves readily to clinical procedure.

Kansas Medical Society Journal, Topeka

April, 1919, **19**, No. 4

Hematuria. C. F. Young, Fort Scott.—p. 73.
Training Schools for Nurses in Kansas. C. Voth, Newton.—p. 76.

Kentucky Medical Journal, Bowling Green

April, 1919, **17**, No. 4

Treatment of Neuritis. E. A. Stevens, Mayfield.—p. 151.
Hyperthyroidism: A Clinical Study. W. F. Boggess, Louisville.—p. 157.
Past, Present and Future of Legal Defense Work in Kentucky. F. Forcht, Louisville.—p. 160.
Care of Defectives. A. Dixon, Henderson.—p. 165.
Uterine Prolapse with Cystocele. J. R. Wathen, Louisville.—p. 171.
Wounds and Injuries of Rectum and Ano-Rectal Region. B. Asman, Louisville.—p. 173.
Importance of Routine Venereal Examination of People Admitted to Jails. W. J. Young, Louisville.—p. 178.
Case of Amebic Colitis and Hepatic Abscess. H. van de Erve, Louisville.—p. 180.
Drainage in Surgery of Chest. G. A. Hendon, Louisville.—p. 183.
Prostatic Operations: Cases. J. H. Peak, Louisville.—p. 184.
Some Ocular Complicaions of Infectious Diseases. S. G. Dabney, Louisville.—p. 187.
"Blue Cornea:" Inherited Syphilis: Motor-Oculi Paralysis: S. G. Dabney, Louisville.—p. 190.
Amebic Ulcer of Colon and Abscess of Liver; Duodenal Perforation: Two Fatal Cases. H. E. Tuley, Louisville.—p. 191.

Maine Medical Association Journal, Portland

April, 1919, **9**, No. 9

State Care of Tuberculous. T. E. Hardy, Waterville, Me.—p. 229.
Problem of Tuberculosis in Childhood. H. D. Chadwick, Westfield, Mass.—p. 235.

Maryland Medical and Chirurgical Faculty Bulletin, Baltimore

March, 1919, **11**, No. 6

Ethical Economics, Vs. Medical Ethics, or Efficiency in Medical Practice. G. S. Peterkin, Seattle, Wash.—p. 134.
General Diagnostic Study by Internist: Cooperating with Groups of Medical and Surgical Specialists. L. F. Barker, Baltimore.—p. 136.

Medical Record, New York City

April 19, 1919, **95**, No. 16

*Epidemic Encephalitis with Stupor: Cases. F. Kennedy, New York.—p. 631.
Psychology of Success in Medicine. A. Bassler, New York.—p. 633.
Early Treatment of Facial Paralysis. W. Martin, Atlantic City.—p. 635.

Rabelais' Mention of the Muscles. D. W. Montgomery, San Francisco.—p. 636.
Experiences with Neodiarsenol (Canadian Neoarsphenamin): Two Hundred and Forty-One Injections Without Ill. Effects. H. Goodman, Camp Las Casas, Porto Rico.—p. 637.
Medical and Surgical Lessons of the War. Sanitation in War. G. G. Nasmith, Toronto.—p. 638.

Epidemic Encephalitis with Stupor.—Kennedy has seen seven cases of this disease. In all, the diagnosis has been manifest. Stupor, however, varied in degree and was absent in one, a girl of 16; in her case there was the usual history of onset with headache, vertigo, and diplopia over about a week's time, together with at present third and seventh nerve palsies, much increase in tendon tone, and pronounced coarse tremor of the right extremities. Another patient, a man aged 35, has no emotional stupor, but lies curled up in bed complaining of headache. He is fretful and irritable. He vomits from time to time and presents inability to look above or below the horizontal and lacks the power of visual accommodation. Kennedy is convinced that these are cases of the same disease as was described by Economo in April, 1917, in Austria; by Netter a year later in France, and at the same time by various British observers in England.

Michigan State Medical Journal, Grand Rapids

April, 1919, **18**, No. 4

Lethargic Encephalitis. E. W. Schnoor, Grand Rapids.—p. 141.
What Everybody Should Know about Cancer. J. H. Carstens, Detroit.—p. 145.
Report of Work Done for Michigan State Board of Health on Mental Conditions of Cases under Treatment for Venereal Disease. G. F. Inch, Kalamazoo.—p. 148.
Venereal Treatment of State Cases—Fairmount Hospital. W. den Bleyker, Kalamazoo.—p. 151.
Complete Muscle Operation in Primary and Secondary Perineorrhaphy Immediately Following Labor. C. E. Boys, Kalamazoo.—p. 153.
Situs Transversus and Extra-Uterine Pregnancy. S. Levin, Lake Linden.—p. 155.
Two Thousand Seven Hundred Sixty-Two Industrial Accident Cases Classified. E. I. Carr, Lansing.—p. 156.

New York Medical Journal, New York

April 19, 1919, **109**, No. 16

Modern Commentaries on Hippocrates. J. Wright, Pleasantville, N. Y.—p. 661.
Operative Technic of Therapeutic Abortion. We E. Parke, Philadelphia.—p. 665.
*Human Serum in Treatment of Influenza Bronchopneumonia. E. W. Gould, New York.—p. 666.
Diagnosis and Treatment of Chronic Gonorrhea in Male. P. Goldfader, Brooklyn.—p. 667.
Chronic Prostatitis, Gonorrheal and Nongonorrheal. J. H. Frideman, New York.—p. 675.
*Craniocerebral Roentgenogram Meter. W. J. Manning, Washington, D. C.—p. 677.
Artificial Pneumothorax in Pulmonary Tuberculosis. L. S. Peters, Albuquerque.—p. 678. To be concluded.
Home Teaching for Shut in Crippled Children. D. C. McMurtrie, New York.—p. 680.
Clinical Notes from France. C. G. Cumston, Geneva, Switzerland.—p. 682.
Prophylaxis and Treatment of Influenza. L. T. de M. Sajous, Philadelphia.—p. 684. To be continued.

Human Serum in Treatment of Influenza Bronchopneumonia.—Under the jurisdiction of the United States Naval Hospital at New York, 842 cases of pneumonia have been treated by Gould and others. Three hundred and twenty have come under Gould's immediate supervision at the Naval Hospital. The mortality rate among these 320 cases has been 26.16 per cent. Many of the patients were in an advanced stage of the disease or even in a moribund condition on arrival at the hospital. Thirty cases of so-called influenza pneumonia were treated by the use of human serum from convalescing patients with a loss of only two cases. The rapid and complete subsidence of symptoms unusual in most cases of influenza pneumonia gave hope that a specific line of treatment had been found. The author was able to confirm the contention of Redden that the amount of lung involvement in the donor is necessarily a reliable criterion in determining the value of his serum. He is impressed with the belief that the human serum from convalescent pneumonias undoubtedly contains valuable antibodies, and that its use in cases infected with homologous strains will give satisfactory results; but with the present limited ability to isolate the infecting organisms of the donor and the recipient, the method cannot yet be placed on a practical basis where definite results can reasonably be expected. Furthermore, this method cannot be used except in large, well equipped hospitals where access can be had to many willing donors.

Craniocerebral Roentgenogram Meter.—This craniocerebral roentgenogram meter, designed by Manning, is intended to be used on the heads of persons suffering from depressed fractures or in other suspected fracture cases, inclusive of foreign bodies or projectiles being received or lodged within the wall of the skull. The intent of the device is to aid surgeons who have to deal with these conditions with graphic landmarks on the head that will guide them more or less and assist in locating a foreign body after a roentgenogram is taken by approximating the different centers with which they may come in contact. The device is very simple in its application, being somewhat in the form of a chain cap with spiral springs attached at each junction of the chain in order that it may adapt itself to various sized craniums or heads. In the event of a hematoma existing, one half of the chain can be raised and the lines carried over from the remaining half in position on the other side of the head.

New York State Journal of Medicine, New York

April, 1919, **19**, No. 4

Surgical Treatment of Unilateral Renal Tuberculosis: Importance of Early Diagnosis. H. L. Kretschmer, Chicago.—p. 119.
Hyperplastic Ethmoiditis: Report of Cases. J. L. Maybaum, New York.—p. 122.
Case of Traumatic Hysteria with Amaurosis. G. R. Hare, New York.—p. 130.
Diagnosis of Acousticus Tumor. I. Friesner, New York.—p. 130.
Relapsing Iritis: Report of Case. A. E. Davis, New York.—p. 132.
Controlling Milk Supply of a Small City. R. S. Breed, Geneva.—p. 134.
Transmission of Diseases of Cattle to Man Through Milk. V. A. Moore, Ithaca.—p. 138.
Treatment of Narcotic Addiction. C. F. Stokes, New York.—p. 144.

Ohio State Medical Journal, Columbus

May 1, 1919, **15**, No. 5

*Fracture of Skull—Diagnosis, Treatment and End-Results. W. D. Haines, Cincinnati.—p. 278.
Underlying Neuropathic State. W. H. Matchette, Greenville, Ohio.—p. 281.
Relation of Hematology to Surgery. E. R. Arn, Dayton.—p. 284.
*Spray Solution for Acute Rhinitis. J. A. Thompson, Cincinnati.—p. 286.
Case of Hysteria. J. L. DeCourcy, Cincinnati.—p. 287.

Fracture of Skull.—Emphasis is placed by Haines on some of the important signs of skull fracture. For instance: Some of the most extensive and fatal brain and cord lesions have followed injury wherein no fracture was found in the ward, by roentgen-ray examination or necropsy. Infinitely more will be accomplished for the patient by employing measures to relieve shock than by immediate operation, the one exception being the presence of active hemorrhage; and even here there is room for argument. Linear fractures of the skull with displacement should be placed under the caption of urgent surgery and dealt with accordingly. The dura is so closely attached to the bones at the base as to render fracture of the bone without rupture of this membrane almost impossible; and still such fractures do occur, and it is for this reason that one must be guarded in assigning a proper place to the absence of cerebrospinal fluid in the scheme of diagnosis. Escaping serum, following hemorrhage arising from uncomplicated rupture of the tympanic membrane or nasal mucosa, may present in mimicry of this system and lead to a grave error in the final conclusions. Notwithstanding the desperate conditions embodied in basilar fractures, about 50 per cent. of the patients, surviving the first forty-eight hours following receipt of the injury, make a final recovery. The treatment should be directed with a view of relieving shock, stopping hemorrhage, preventing infection, and controlling pressure.

Spray Solution for Acute Rhinitis.—The following spray solution is used by Thompson in cases of acute rhinitis:

atropin, ½ grain; epinephrin, 1 grain; menthol, 24 grains; camphor, 40 grains; oil sweet almonds, 2 ounces; liquid petrolatum, 6 ounces.

Wisconsin Medical Journal, Milwaukee

April, 1919, **17**, No. 11

*Digitalis in Cardiorenal Disturbances. O. M. Layton, Fond du Lac.—p. 435.
Adequate Treatment of Syphilis. J. J. Seelman, Milwaukee.—p. 438.
*Atropin and Dextrose Solution in Treatment of Acute Intestinal Obstruction. A. J. Caffrey, Milwaukee.—p. 447.

Digitalis in Cardiorenal Disturbances.—The intramuscular and intravenous routes of administration of digitalis are favored by Layton in the cardiorenal conditions, because these patients so often have not only a gastro-intestinal tract which renders absorption and time effect of the drug uncertain, but they frequently demand immediate results which can only be obtained by these routes, but the oral administration may be used as soon as conditions warrant it. The degree of hypertension present in no way contraindicates the use of digitalis if indicated. In fact, the hypertension is a compensatory process to be maintained temporarily, at least. If the heart needs digitalis, the existing hypertension may be disregarded.

Treatment of Acute Intestinal Obstruction.—Caffrey reports two cases in which very favorable results were obtained from the intravenous use of glucose solution.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

March 29, 1919, **2**, No. 3039

Disease and Diagnosis. H. Head.—p. 365.
*Medical and Surgical Work as Prisoner of War. A. T. I. MacDonald.—p. 367.
*Adjustment of Response to Nerve Stimulus in Voluntary Muscles. G. M. Levick.—p. 369.
*Study of Acute Rheumatism. F. J. Poynton.—p. 371.
Four Years' Work at an Ante-Natal Clinic. A. Crook.—p. 372.
Half a Century of Smallpox and Vaccination. J. C. McVail.—p. 373.
Herpes Zoster and Varicella. W. M. Gray.—p. 377.
Gonococcal Papilloma of Umbilicus. T. Anwyl-Davies.—p. 378.
Ciliated (?) Ameba in Liver Abscess. R. C. Watts.—p. 378.
*Primary Sarcoma of Prostate in Boy. E. Nicholson and E. M. Hainworth.—p. 378.

Medical and Surgical Work as Prisoner of War.—MacDonald was taken prisoner by the Germans in March, 1918. In this paper he gives an account of his individual experience and the professional work of the German army surgeons.

Voluntary Muscle Response to Nerve Stimulus.—This paper is based on the result of tests made on many hundreds of wounded men, in the electricity departments of two of the largest military orthopedic hospitals. Levick found that after injury to a motor nerve the muscles supplied by the injured fibers respond to stimulus with a contraction longer in duration than that of the normal muscle. This was observed in every one of the many hundred cases tested. Levick suggests that this lengthening of the contraction is due to hyperexcitability in the muscle following a definite sequence of events. When the stimulus from the upper motor neuron weakens or ceases, the anterior horn cells of the lower neuron become hyperexcitable, and the muscle tone is increased. When the nerve impulse is slightly retarded, the muscle responds with a slightly lengthened response; when the nerve impulse is further retarded, the muscle responds with a further lengthening of the response; when the nerve retardation reaches a certain point, the muscle reaches a limit of response beyond which it cannot go, and this response is the same in cases of severe nerve compression or of complete division of the nerve. After suture of the nerve, and its subsequent regeneration, response to faradic stimulus first appears in the muscle, proving the dawn of a new nerve supply. Then, after a period the muscle begins to respond first with a slight shortening of the contraction, and then, following the gradual establishment of nerve influence, with a gradual further shortening until, following the complete regeneration of the nerve, the muscle response is restored once more to its normal length. When the excitability of a lower motor neuron is increased, that of the muscle is reduced.

Acute Rheumatism with Pericardial Exudation.—Poynton cites the case of a girl, aged 17, the victim of acute rheumatism, with a heart injured by a previous attack, who passed through a second most severe one while under observation in the hospital. A general pericarditis with copious effusion developed, and the fluid withdrawn by paracentesis showed numerous minute diplococci, some in the fluid, many more carried up in numbers by the polymorphonuclear leukocytes. The stage of the illness was one in which the acute phase was subsiding, but death was threatened from mechanical embarrassment. This patient did not die, the effusion did not return, the temperature fell, and eventually the recovery was so good that she left the hospital able to walk short distance, and with a compensated mitral lesion. This is the first case in which Poynton has been fortunate enough to obtain a living pericardial exudation in man in this particular phase, and it completely supports the results of experimentation. This result also serves to strengthen the extreme probability that in the human cases of rheumatic pericarditis in which there is little effusion but great thickening of pericardial tissues, the diplococci are shut in the necrotic areas but imperfectly destroyed; and, lurking there, flare up into virulence from time to time, and thus cause the intractable relapsing examples encountered in childhood.

Primary Sarcoma of Prostate in Boy.—The patient in this case was only 3½ years of age. He had had difficulty and pain on passing water for seven weeks, and had very frequently needed a catheter. At operation it was seen that the prostatic urethra was occupied by a tumor the size of a golf ball, which was easily shelled out. The tumor had the structure of a sarcoma. The child recovered from the operation, and was much more comfortable for some weeks, but recurrence was rapid, and death resulted.

Bulletin of Naval Medical Association of Japan, Tokyo

February, 1919, No. 22

*Observations on Babes-Ernst's Bodies and Formation of Spores. J. Ishiguro.—p. 1.
*Causes of Contamination of Air in War Vessels. R. Kimura.—p. 3.
*Lipovaccine. B. Abe.—p. 4.
Secretory Process of Urea and Chlorin Compounds by the Kidneys. G. Ezure.—p. 6.
*Quantity of Cholesterin in Blood. J. Yamakoshi.—p. 7.

Observations on Babes-Ernst's Body and Formation of Spores.—The protoplasm of the seventeen species of micro-organisms used by Ishiguro, with the exception of the tubercle bacillus, was promptly dissolved in concentrated phenol solution, thus leaving the microbic bodies staining faintly, or not at all, and the Babes-Ernst's bodies staining deeply at each pole of the microbe by the usual stains. Ishiguro claims that the intimate relation of this body to the formation of spores cannot be doubted. This body disappeared entirely after coming in contact with the spore corpuscle; but the difference of these two bodies—Babes-Ernst's body and spore corpuscle—could easily be demonstrated by the fact that the former had always some connection with the capsule, while the latter had none. The spore corpuscle, after uniting with the Babes body, underwent several changes, thereby becoming larger in its size, until a complete spore was formed, which first showed some remnants of the mother micro-organism, attached to both poles, to become ultimately free after these melted away.

Causes of Contamination of Air in War Vessels.—Kimura made experiments to determine the degree of contamination of the air caused by vegetables, coals and briquettes kept under conditions likely to exist in storing them in war vessels. Vegetables, such as turnips, onions, potatoes and Japanese onions, were stored separately in glass vessels kept in a cold dark place, and the air in each vessel was examined, after the lapse of a certain time, as to its degree of contamination, with special reference to its proportion of oxygen and carbon dioxid, by various methods, including chemical analysis and animal experiments. From the chemical analysis it was shown that potatoes for 1,000 men a day (488

grams of vegetables is given to one man as ration in the Japanese navy), when kept in a space with the volume of 18 cubic meters (a storage for example, of 3 meters by 3 meters by 2 meters), contaminate the air in that space to such a degree as to increase the proportion of carbon dioxid up to nearly 0.2 per cent., after one day, while this increase was about 1 per cent. in the case of Japanese onions stored under the same condition for the same length of time.

Typhoid Lipovaccine.—Typhoid lipovaccine prepared with unheated sweet oil was used by Abe and his co-workers for their animal experiments, and its value as a vaccine was compared with that of normal typhoid vaccine. They found that the toxin of typhoid bacilli in this lipovaccine was reduced to one fifth of the bacilli in the normal vaccine, and consequently a large dose could be inoculated at one time without any serious reactions. The agglutinin in the serum of rabbits inoculated with this vaccine appeared on the fourth day and reached its maximum value on the fifteenth day on the average. Its first appearance and when it reached its maximum were a little later than in the case when the normal vaccine containing the same dose of bacilli was inoculated at one time, but they appeared much earlier than in the case when the normal vaccine with the same dose of the bacilli was divided into three inoculations with a regular interval. This agglutinating power diminished slowly and became almost stable at the end of a period of about seventy-five days, and continued, after that time, to be almost at the same level for a considerable time. The relative strength of this stable value to the normal agglutinating power was much higher than in the case when the normal vaccine was used. The fluctuation of the value of the bacteriolysin followed almost the same line as the agglutinin, and its existence was much longer than in the case of the normal vaccine. The complement binding substance existed also for a long time. The protecting power of guinea-pigs against infection reached its maximum about ten days later as compared with the normal vaccine, but its standard was higher and maintained for a longer time. From these facts Abe concludes that, by the use of this lipovaccine, a larger dose of typhoid bacilli can be inoculated at one time with slight reactions, the trouble of inoculating repeatedly with the normal vaccine may be removed, and yet the acquisition of high and lasting immunity against typhoid may be attained.

Quantity of Cholesterin in Blood.—The quantity of cholesterin in the blood of ten healthy persons belonging to the laboring class in Japan varied between 130 and 160 mg. in each 100 c.c. of blood plasma, the average being 143 gm. This quantity was generally, though not constantly, lower in the blood of forty invalids suffering from beriberi, and also in cases of anemia and syphilis; while it was higher in three cases of hemiplegia. There was no marked difference in this quantity either before or after a meal.

Lancet, London

April 5, 1919, **2**, No. 4988

Cerebrospinal Fever: Lumleian Lectures. H. Rolleston.—p. 541.
*Causation and Prevention of Industrial Accidents. H. M. Vernon. —p. 549.
*Left Scapular Pain and Tenderness in Heart Disease and Distress. J. Parkinson.—p. 550.
*Autumn Influenza Epidemic (1918) As It Affected New Zealand Expeditionary Force in United Kingdom. J. W. H. Eyre and E. C. Lowe.—p. 553.
*Treatment of Complicated Influenza. A. J. Eagleton and H. H. Butcher.—p. 560.
*Polyorrhomenitis: Malignant Inflammation of Serous Membranes. W. E. Cooke.—p. 562.
Present Epidemic of Influenza. M. J. Rowlands.—p. 563.
Influenza and Diphtheria. E. A. Constable.—p. 563.

Causation and Prevention of Industrial Accidents.—Every year, more than 1,000 workers (exclusive of miners) are killed in industrial accidents in England, from 100,000 to 200,000 suffer injuries sufficient to incapacitate them for a week or more, and about 2,000,000 suffer minor injuries. Vernon examined the accident records in four large ammunition factories over periods of from nine to twenty-five and one-half months, and more than 50,000 accidents were tabulated. Three fourths of the accidents were cuts, chiefly of the hands, against the sharp lathe tools and drills. In the afternoon spell the accidents were 29 per cent. more numerous than in the morning spell, and they were more than twice as numerous in the twelve-hour day period as in the ten-hour-day period. The rise of accidents in the morning is due partly to increasing speed of production. More important than speed of production is the effect of carelessness and inattention. When the average sobriety of the nation greatly increased because of increasing restrictions on the sale of alcoholic liquids, both men and women showed a steady dimunition in accidents. Unsuitable temperature is a very important cause of accidents. In a not very efficiently warmed shell factory the accidents to women were two and one-half times more numerous on such days as the external temperature was at or below the freezing point than when it was 48 F. or over, while at intermediate temperatures the accidents were intermediate in number. The accidents to men were similarly affected, and were twice as numerous on the very cold days as on the warm ones. Only one class of accidents was found to increase much by night, namely, foreign bodies (as metal or emery) in the eye. At the best lit factory they showed very little excess. For the prevention of accidents the author commends the methods employed in the "safety campaign," adopted in the United States. This consists in the installation of safety devices and of as complete a system of mechanical safeguards as possible.

Left Scapular Pain in Heart Disease.—Certain soldiers sent to a heart section complaining of pain below the left breast also spoke of pain in the back. Parkinson and others then began an investigation. In a consecutive series of 100 patients complaining of pain on the left side of the chest, twenty-eight complained also of pain in the left scapular region. The patient complains of pain "in the heart" and "going through to the back," or pain at the heart and "under the shoulder-blade." The scapular pain does not seem to occur in the absence of submammary pain. The pain may be sharp and stabbing, or it may be dull and aching; usually it partakes of the same characters as accompany the submammary pain, although it is rarely so severe. Some patients talk of a stabbing pain going through to the back, and some of an aching pain going round to the back. Exertion is by far the commonest exciting cause. The onset of scapular pain is gradual, and the course chronic. The most constant symptom associated with the thoracic pain is shortness of breath, also dependent on exertion; and it was present in all but two cases. In most it preceded the onset of pain; otherwise it became noticeable about the same time. Other frequent symptoms were palpitation, dizziness, and general weakness.

Of the twenty-eight men who complained of pain in the left scapular region, ten showed hyperalgesia on the posterior surface of the chest, involving in every case the lower part of the scapula, though sometimes extending far beyond it. Chronic pain below the left breast, and pain at or about the lower angle of the left scapula, are seen in valvular disease of the heart, myocardial disease, and in arteriosclerosis and chronic nephritis when the heart has become burdened. It occurs in functional heart disease if that term is used widely to embrace cases with cardiac symptoms and without abnormal physical signs connoting organic disease. Among such include those presenting tachycardia only, and those with added symptoms or signs indicative of functional nervous disorder in association. The history of rheumatic fever was given in twenty out of fifty cases. Of these, ten proved to have signs of valvular disease. Only two men gave a history of syphilis. Two dated their pain from scarlet fever, two from pneumonia, and two from trench fever; none ascribed the onset to pleurisy.

The abnormal signs noted among the fifty cases with scapular pain were as follows: Two had rheumatic valvular disease of the heart—namely, six, aortic incompetence; two, mitral stenosis, and two, mitral incompetence. One patient had breathlessness and pain in the chest and left arm so severe that the diagnosis of myocardial disease was made. Six had a high systolic blood pressure, over 150 mm. of mercury at repeated examinations, and one of these showed enlargement of the heart with a blood pressure of 210; another had very thick and tortuous arteries, and his blood

gave a positive Wassermann reaction. In eight cases there was tachycardia, the pulse rate in recumbency being 100 or more at repeated examinations. Four men were nervous in their manner, two of these were tremulous, and a third had a typical hysterical seizure under subsequent observation. One man had persistent slight albuminuria with a normal blood pressure.

Autumn Influenza Epidemic in New Zealand Expeditionary Force.—The total results obtained by Eyre and Lowe in this study favor the use of their mixed catarrhal vaccine. Out of a total average strength of 21,759, approximately 16,104 men received full prophylactic vaccination, and approximately 5,700 were uninoculated or had received only one dose of mixed catarrhal vaccine. Out of a total average strength of 21,759, there occurred 3,366 cases of influenza (15 per cent.). Infection incidence in inoculated and uninoculated men is approximately in the proportion of 1.3 per cent. to 4.1 per cent. (or 1:3). The risk of death in severe and complicated cases in inoculated and uninoculated men is approximately as 8 per cent. to 23 per cent. (or 1:3). The risk of death among all cases infected varies for the inoculated and uninoculated as 0.26 per cent. to 2.2 per cent. (or 1:9).

Treatment of Complicated Influenza.—From a survey of Eagleton and Butcher's results, it appears that although inoculation by a mixed vaccine of *B. influenzae*, pneumococcus, streptococcus, *Staphylococcus aureus*, *M. catarrhalis*, *B. pneumoniae*, and *B. septicus* conferred no immunity to serious complications, yet the course of the disease was modified so that a lower mortality resulted in these severe cases.

Polyorrhomenitis: Malignant Serositis.—Cooke reports the case of a Turkish soldier, aged 29, who complained of malaise, slight cough, and pains in the back and the sides of the chest. He had had no previous illness, and was always able to perform his duties. There was no family history of tuberculosis nor evidence of syphilis. The temperature was 98 F., the respirations 20 with slight dyspnea, and the pulse 88, of good volume and tension. The patient was slightly cyanosed; the venules of the cheeks were prominent; the conjunctivae had a subicteral tinge. There was marked epigastric pulsation. Hypertrophic pulmonary arthropathy was marked in the hands. Diastolic collapse of the cervical veins was not present; there was no paradoxical pulse. Examination of the lungs revealed the chest expansion equal but poor. Litten's sign was absent. Vocal fremitus was very much diminished over both sides of the chest. The percussion note was much impaired; in no region was there absolute flatness. On auscultation the breath sounds were faintly heard over the lower three fourths of the chest. At the apexes in front the breath sounds were more audible. Expiration was prolonged over the whole chest; at the bases there were a few moist râles. Creaks were heard all over the chest. The sputum was scanty and mucopurulent. No tubercle bacilli were found; pneumococci were present in abundance. When the heart was examined the apex impulse could not be seen; there was marked epigastric pulsation; the cervical veins were not prominent. By palpation a diffuse, very faint systolic impulse could be detected in the fourth and fifth interspaces, inside the nipple line. Percussion disclosed an area of dulness from 2 inches on the right of the sternum to 4 inches on the left, at the level of the fourth interspace. The dulness extended upward to the sternal notch, and laterally blended with impaired resonance over the lungs. On auscultation, the heart sounds were faintly heard at the apex. The pulmonic second sound was very loud compared with the aortic. There were crackling râles over the whole of the sternum and the adjacent chest wall. The liver extended an inch below the costal margin; there was no ascites. The specific gravity of the urine was 1.018; there was no albumin nor sugar. The patient died with all the signs of edema of the lungs. A full necropsy report is given.

Practitioner, London

April, 1919, **102**, No. 4

Clinical Study of One Hundred and Eight Cases of Ectopic Pregnancy. J. B. Hellier.—p. 169.
*Diagnosis Between Organic and Functional Anesthesia. R. T. Williamson.—p. 177.
Cases of Spontaneous Pneumothorax. E. P. Weber.—p. 190.
*Diagnosis of Myocardial Debility. R. T. Thorne.—p. 199.
*Effects of Moderate Exercise on Blood Pressure. G. Smythe.—p. 205.
Retrospect of Otology, 1918. M. Yearsley.—p. 215.
*Treatment of Asthma. R. Stewart.—p. 218.
Anxiety State—Aspect of Treatment. L. Scott.—p. 222.

Diagnosis Between Organic and Functional Anesthesia.—Williamson points out that the greatest difficulty in diagnosis between organic and functional anesthesia occurs when only part of one or two limbs is anesthetic, as the hand and a portion of the arm, or the foot and a portion of the leg, the upper limit of anesthesia forming a line more or less at right angles to the long axis of the limb. This anesthesia may be functional or may be due to an organic cerebral lesion or multiple peripheral neuritis, but only in very rare instances to an organic spinal lesion (as syringomyelia or hemorrhage). If the upper limit of the anesthesia is very sharply defined, this is a point in favor of functional anesthesia. Often diagnosis is definitely decided by Janet's test, or by the vibrating sensation, or by other characters.

Diagnosis of Myocardial Debility by Means of Differential Stethoscope.—It is maintained by those who have used this instrument that it enables the physician to diagnoses myocardial changes. Thorne believes this to be the case, and offers confirmatory evidence in support of this statement. He has found the instrument of great value in judging the effect of acute febrile conditions, such as influenza, pneumonia, measles, acute rheumatism, pleurisy, bronchitis, and other illnesses, on the myocardium. The results obtained enable the progress of the disease in the acute stage and during convalescence to be estimated, and the patient to be kept in bed as long as there is any evidence of myocardial weakness. He has also found the differential stethoscope of great value in detecting malingerers who plead heart weakness, palpitation and breathlessness, when they do not wish to return to duty. Experience leads Thorne to believe that it can be relied on in the diagnosis of such cases.

Effects of Moderate Exercise on Blood Pressure.—One hundred officers cadets were used by Smythe to get these data. He found that in the majority of cases, the systolic blood pressure is lowered after moderate exercise. This lowering is caused mainly by the dilatation of the arteries and capillaries, and not by fatigue of the heart muscle. The average pulse rate in the series was 78 per minute, both before and after exercise. The effects of moderate exercise on the system are beneficial, as the peripheral dilatation caused thereby increases the warmth of the skin, and provokes the flow of sweat from the sweat glands without taxing the heart to any degree. After physical training on Swedish lines, the man finishes up unexhausted and fresh.

Treatment of Asthma.—Besides advising fresh air and proper diet and hygiene, Stewart gives iodids and arsenic with strychnin for one month after the attack has subsided.

Archives des Maladies du Cœur, etc., Paris

January, 1919, **12**, No. 1

Mechanism of the Muscular Contractions of the Ventricular Systole. G. Etienne and J. Mondlange.—p. 1.
The Circulation in the Retina. P. Bailliart.—p. 21.
Functional Tests with Tachycardia. M. Leconte.—p. 32.

Archives de Médecine des Enfants, Paris

March, 1919, **22**, No. 3

*Paralysis of the Neck. F. Figueira.—p. 113.
*Cerebrospinal Fragility. A. Collin and Verdé.—p. 126.
*Latent Purulent Pleurisy in Young Children. P. Bézy and F. Escande.—p. 137.
*Neuroblastoma Sympathicum. J. Comby.—p. 142.

Paralysis of the Neck.—Figueira here presents six cases of the "cephaloplegic syndrome" which affects infants and young children, mostly previously healthy. On waking in the morning it is found that the head cannot be held up; it lops forward or backward. In some of the cases there had been a preceding pseudogrippal catarrhal affection. The tendon reflexes were usually attenuated, and in most of the cases the electric excitability was reduced. This acute and sudden akinesia disappeared in four to ten days, without

leaving a trace. All the cases were observed at Rio de Janeiro, and the first coincided with an epidemic of 100 cases of poliomyelitis (1910-1911). Since that time, about ten or fifteen cases of poliomyelitis have been reported there each year. Figueira is inclined to regard the "cephaloplegic syndrome" as an abortive form of poliomyelitis, notwithstanding the lack of an epidemic and the absence of several symptoms usually regarded as testifying to poliomyelitis.

Vulnerable Nervous System in Children.—Collin and Verdé expatiate on the peculiar fragility of the cerebrospinal nervous system in some children, which renders it exceptionally susceptible to toxic and infectious influences. They review in detail the whole train of nervous phenomena which can be attributed to this. A long walk or muscular fatigue, long studying, may transiently modify the reflexes and sensibility. Sleep may be irregular or excessive, and the susceptibility to intoxications and infections is extreme. In young infants, spasmophilia, periods of agitation, and bradycardia when they are hungry are evidently due to the substandard state of their nervous system. Sometimes the differing electric responses on the two sides enable this special fragility on one side to be studied most instructively, as Moll has described in his work on the difference between the left and the right sides. He declared that the weaker side is more susceptible to morbid processes.

Purulent Pleurisy in Young Children.—Bézy and Escande explain the blunder in diagnosis in the two cases described as due to the remarkable tolerance of the pleura and lung for several months to the presence of and the pressure from the pus. The negative results of puncture must have been due to the thick consistency of the pus or to obstruction of the needle. The misleading resonance in the space of Traube was explained by radioscopy showing an unusually large air bubble in the stomach. Deviation of the heart and mediastinum is the most instructive finding. The boy of 3 was given operative treatment for a supposed osteitic process in the ribs. Radiography may be the only means to detect these latent pleurisies.

Neuroblastoma.—Comby summarizes recent literature on neuroblastoma sympathicum, and remarks that probably certain cases described as sarcomas of the suprarenals were in reality such neuroblastomas originating in the sympathetic nerve.

Bulletin de l'Académie de Médecine, Paris

March 4, 1919, **81**, No. 9

Advantages of Intrascleral Cartilage Graft After Enucleation of Eyeball. Duverger and F. de Lapersonne.—p. 237.
*Hot Air in Treatment of War Wounds. M. Vignat and Bazy.—p. 239.
*The Demineralization of Bone. A. Robin.—p. 241.
Brazilian Trypanosomiasis: Chagas' Disease. E. Brumpt.—p. 251.
The Problem of Chemotherapy of Tuberculosis. L. Rénon.—p. 254.
Methylene Blue in Influenza. Blum.—p. 256.

Hot Air in Treatment of Wounds.—Vignat uses a jet of hot air or hot oxygen in treatment of wounds, and extols the fine results realized. It proved particularly useful in recent wounds, after clearing out the devitalized tissue, to ward off infection.

Demineralization of Bone.—Robin declares that all empiric measures have failed to arrest the demineralization of bone which has proved a serious complication with many war wounds, as well as in osteomalacia, etc. He outlines a course of treatment which has proved successful in his hands, as he describes in detail. The food must be selected to supply mineral salts, the generation of acids must be prevented, the nervous system stimulated, and cod liver oil and arsenical preparations given, with extra care for hygiene. The examples he gives show that this tendency to demineralization is not beyond our therapeutic resources guided by the metabolic findings.

Bulletins de la Société Médicale des Hôpitaux, Paris

Jan. 24, 1919, **43**, No. 3

*Streptococcus Septicemia. F. Rathery and J. du Castel.—p. 27.
Functional Tests of Heart in Secondary Syphilis. J. du Castel.—p. 31.
*Curable Cirrhosis of the Liver. Courtois-Suffit and R. Giroux.—p. 35.
Congenital Stenosis of Left Subclavian Artery. C. Laubry and C. Esmein.—p. 40.
*Meningococcus Septicemia. G. Faroy and E. May.—p. 44.
*Spirochetes in the Urine in Syphilis. P. P. Lévy and Guilé.—p. 48.

Streptococcus Septicemia.—Rathery and Castel report two rapidly fatal cases in healthy young soldiers. The onset suggested influenza in one case; in the other there was a typhoidal condition with generalized contracture, a papulohemorrhagic eruption with phlyctenas, and fulminating bronchopneumonia with rapid purulent breaking down of lung tissue.

Cirrhosis of Liver with Ascites, Peritonitis, and Recovery.—Courtois-Suffit emphasizes anew that a possible syphilitic origin should be suspected, until disproved, in every case of cirrhosis of the liver, even with ascites and even when there is alcoholism besides. Four typical cases are reported in which vigorous treatment based on the positive Wassermann reaction has apparently cured the patients. Even with a negative Wassermann, this treatment should be given a trial; the patient can only gain thereby. The improvement may be extremely slow and gradual; several months should be allowed to elapse before deciding that it is not effectual. In three other cases the debility was so extreme that the patients died before the specific treatment had modified the clinical picture.

Meningococcus Septicemia.—Faroy and May say that there was no meningitis and only arthritis with the meningococcus septicemia. Both the men recovered under intravenous antimeningococcus serotherapy. Injection of the antiserum into the joint did not seem to benefit, but the arthritis yielded promptly to an injection of ether. The septicemia had induced a typhoidal continuous fever.

Spirochetes in the Urine.—Lévy and Guilé examined the urine of twenty-four men shortly before or after the beginning of the secondary stage of syphilis. The pale spirochete was found in the urine in only one of the men, and this only at the end of the first month after the development of the chancre.

Lyon Médical

March, 1919, **128**, No. 3

*Treatment of War Aphonia. J. Garel.—p. 129.
Polyvalent Serotherapy in Influenza. R. Pauly.—p. 170.

War Aphonia.—Before the war, Garel had scarcely ever encountered aphonia in men, although it has always been comparatively common in women. The emotional stress of warfare caused the development of aphonia in many of the men on active service. He has had 196 cases, and thirty-eight of the men had had the aphonia from six months to three years. A complete cure was realized in 124 of the 172 given treatment, the proportion of cures growing larger each year with his increasing confidence in treatment addressed to the causal hysteria (pithiatism). An important aid in this is to segregate the cases of aphonia, and to have cured cases among them. The unconscious suggestion from these cured cases is an invaluable factor in the cure. One of the men had recurring spasm of the glottis compelling intubation ten times in the course of seventeen days, but he was readily cured when he was witness of the cure of others. Garel declares that every case of symmetrical paretic aphonia will subside in time. Reeducation is the best method of treatment of aphonia in man or woman. He has the patient make a forcible expiration, like a sigh, repeating this and finally getting the patient to make this expiration audible with a sound in a low tone. This sound can be elicited by a sudden pressure on the epigastrium with one hand, the other hand on the back. With this simple maneuver, the expiration is accompanied by a sound, and the patient is urged to reenforce this sound voluntarily, to utter the vowels during a series of brusque expirations. In less than two minutes, by this means he cured aphonia in one case of nine years' standing. The laryngoscope will reveal paralysis of the vocal cords, and in eleven cases the mere introduction of the laryngoscope alone cured the aphonia. In others, backward pressure on the sides of the thyroid cartilage, the head lowered, as an effort is made to speak, answered the purpose. He never obtained any benefit from hypnosis.

Paris Médical

March 8, 1919, **9**, No. 10

*Malarial Meningitis. G. Paisseau and J. Hutinel.—p. 197.
*Vaccine as Adjuvant in Gonorrhea. Baril and P. Creuzé.—p. 202.
Pseudo-Mumps. Denéchau.—p. 208.
*The Therapeutic Value of the Oculocardiac Reflex. R. Voisin and Benhamou.—p. 210.

Malarial Meningitis.—Paisseau and Hutinel give examples of reactions on the part of the meninges in the course of malaria, merely cytologic or more pronounced, sometimes intermittent, up to actual acute meningitis. When energetic treatment is instituted the acute meningitis subsides but it may leave tardy sequelae, such as the ulceration of the cornea in a case described in detail. They comment on the analogy between malaria and syphilis as displayed anew by the meningeal reactions which each may present. They warn also that the peripheral blood may be free from parasites during these pernicious phases of malarial infection. The pernicious character is not necessarily due to particularly intense infection but merely to the localization of the parasites in some special organ. Considerable bibliography is appended.

Vaccine Therapy in Gonorrhea.—Baril and Creuzé obtained the cure in from twelve to twenty-five days in 95 per cent. of 300 cases of acute or chronic gonorrhea, including fifty cases in women. They ascribe this success and the shortening of the course of the disease to the combination of a polyvalent vaccine with local treatment of the urethritis or vaginitis, plus systematic dilatation of the urethra in the old cases. The vaccine was injected on alternate days, in the gluteal muscles, to a total of eight injections. The lavages are not begun until about the fourth injection of the vaccine, when the general defensive reaction is at a certain height. They prefer mercury oxycyanid to permanganate for the local treatment, using a 1:8,000 up to a 1:4,000 solution.

Therapeutic Application of the Oculocardiac Reflex.—Voisin and Benhamou were surprised to find in two cases of essential paroxysmal tachycardia, without heart disease, that under pressure on the eyeball the tachycardia subsided. These patients were a woman of 40 and a young man; in the latter the pressure had to be kept up for two or three minutes to ensure a permanent result. In other cases the tachycardia was constant, and pressure on the eyeball modified it for two or three hours, the subject feeling the marked modification of the heart beat and in this way being favorably impressed and stabilized. In neuroses, this is an important adjuvant, as also in certain manifestations of hysteria, epileptiform seizures, tremor, etc.

Presse Médicale, Paris

March 6, 1919, **27**, No. 13

The Bacteriologic Diagnosis of Diphtheria. S. Costa, J. Troisier and J. Dauvergne.—p. 113.
Technic for Laminectomy for War Wounds. R. Dumas and L. Maurizot.—p. 114.
Progressive Ossifying Myositis. J. Luzoir.—p. 115.

March 10, 1919, **27**, No. 14

Gilbert's Pityriasis is a Tuberculid. P. Le Damany.—p. 121.
Traumatic Aerocele of the Brain. R. Glénard and J. Aimard.—p. 123.
*Bronchopulmonary Spirochetosis. R. Dalimier.—p. 124.
Four Useful Surgical Instruments. F. Jayle.—p. 125.
Hexamethylenamin by the Vein in Influenza. H. Michel.—p. 126.

Bronchopulmonary Spirochetosis.—Dalimier remarks that men with Castellani's spirochetosis present the clinical picture of pulmonary tuberculosis, but the lung findings and sputum are almost negative and there is no fever, although the men are constantly spitting blood. The spirochete in question is of all lengths and sizes, and with from one to ten twists. In two of his cases this spirochetosis had kept up for more than a year. The hemoptysis although frequent was never severe, and no complications were observed, but the debility in the chronic cases may invite other infections, especially tuberculosis. This spirochetosis is contagious but not violently so. None of the usual measures for hemoptysis did any good. The best results were obtained with a daily dose of 60 gm. of wine of cinchona with 10 drops of Fowler's solution. This seemed to have a distinct action on the expectoration of blood.

Revue Mens. de Gynécologie, d'Obst. et de Péd., Paris

January, 1919, **14**, No. 1

*Cystoscopy with Uterine Cancer. P. Cruet.—p. 3.
Case of Tardy Rotation of the Head. S. Rémy.—p. 24.
Pituitary in Obstetrics and Gynecology. L. Pouliot.—p. 27. Cont'n.

The "Revue."—This review suspended publication during the war, but now resumes its monthly issue, the fourteenth year since its foundation. Cruet's article opens the list, the last from his pen, as he was one of the victims of the war. The three leading articles are accompanied by summaries in English and in Spanish.

Cystoscopy in the Diagnosis of Cancer of Uterine Cervix.—Cruet analyzes what has been written on this subject in different countries, saying that there are now 500 cases in which the cystoscopic findings have been recorded with cancer of the cervix. His own experience with ten operable and seventeen inoperable cases confirms the general opinion that simple bulging of the floor of the bladder has no diagnostic significance. When the floor is thrown up into folds, with deep valleys between, we can count on there being tight inflammatory adhesions which will hamper the operation on the cancer, but do not contraindicate it absolutely. When there is edema of any kind, there are usually extremely close adhesions, possibly of a malignant nature, which render the operation dangerous and, he thinks, stamp the case as inoperable. The majority of writers report that they never had any difficulty in operating when the cystoscopic findings were negative, but invariably, when they were positive. However, there is no agreement between them as to what constitutes positive findings.

Cruet regards the aspect of the mouth of the ureter as suggestive when it is pushed up or to one side by the bulging of the bladder floor. The ureter mouths may be surrounded by abnormal vascularization, diffusely red, with edema, but the most characteristic findings are (1) the enlargement and flattening out of the orifice, suggesting stenosis just above, and (2) the edematous protrusion of the ureter mouth. This protrusion may give it a volcano-like aspect. When the ureter is compressed, the interval between the spurts of urine is longer and the jet stronger. In normal conditions the intervals are of equal length with both ureters. Compression is also liable to induce spasm of the mouth of the ureter, fractioning the ejaculation.

Cruet also noticed that when the ureter had been invaded there were no folds in the bladder mucosa around the ureter mouth after ejaculation. Catheterization of the ureter may also give useful information, and it may aid in the operation to leave the catheter in place. Four plates that should have accompanied this article, are to follow later.

Deutsche medizinische Wochenschrift, Berlin

Jan. 2, 1919, **45**, No. 1

*Research on Regeneration in Man. A. Bier.—p. 4.
*Cure of Psychogenous Deafness. R. Sommer.—p. 10.
Organized Prophylaxis of Epidemics. P. Schmidt.—p. 11.
*The Campaign Against Venereal Diseases. A. Blaschko.—p. 12.
*Serodiagnosis of Typhus. L. Dienes.—p. 14.
Nephritis with Influenza. J. Heising.—p. 15.
Manifestations of Influenza in Ear and Upper Air Passages. C. Hirsch.—p. 15.
Thrombosis and Eruption in Influenza. J. Jacob.—p. 16.
Danger of Typhus from the East. E. Martini.—p. 17.
*Remote Sounds from Heart and Vessels. P. Hampeln.—p. 19.
Hemostasis by Direct Pressure on Artery. H. Walther.—p. 20.
*Occult Blood in the Feces. R. Baumstark.—p. 21.

Regeneration of Human Tissues.—In this eighteenth report on the results of his research on regeneration in man, Bier discusses the interstices of loose connective tissue, regarding them as analogous with the synovial spaces.

Psychogenous Deafness and Deafmutism.—Sommer sets the patient to examining the record of his tremor on a registering drum. When absorbed in this, a loud gong is struck just behind him. The register shows the effect of the shock, and it is easy then to convince him that he has "regained" his hearing.

Campaign Against Venereal Disease.—Blaschko asserts that the public must be educated to realize that venereal disease can be effectually aborted if treated at once after infection. All physicians must be trained to recognize venereal disease at once. When these two conditions are realized, then prompt application for treatment and the immediate recognition of the disease and giving of proper treatment will prove a great advance in the prophylaxis of venereal disease.

Typhus.—Dienes argues to explain why the serum of typhus patients agglutinates certain strains of the proteus.

Sounds from Heart and Vessels Heard at a Distance.—Hampeln discusses the sounds heard at a distance, saying that the first heart sound can be heard at remote points in both physiologic and pathologic conditions, as also the second heart sound. Sometimes a sound can be heard in a peripheral region, as for instance, a volar sound in the palm.

Occult Blood in Stools.—Baumstark has been carrying on a lively controversy with Boas and others in regard to occult blood in the stools, as his experience with 254 cases of stomach or bowel disease showed often positive findings in the complete absence of ulcer or cancer. He reiterates that occult blood in the stools should not be regarded as of decisive differential diagnostic importance in dubious cases.

Chirurgia degli Organi di Movimento, Bologna

February, 1919, **3**, No. 1

*Fracture of the Clavicle. A. Catterina.—p. 1.
*Purulent Arthritis of Tarsus. O. Uffreduzzi and G. Serafini.—p. 20.
*War Fracture of Femur or Humerus. U. Camera.—p. 29.
*Operative Treatment of Causalgia. G. D'Agata.—p. 55.
Bacterial Flora in Amputation Stumps. G. Vernoni.—p. 71.
*Amputation Stumps. A. Chiasserini.—p. 97.
*Partial Amputation of the Hand. F. Delitala.—p. 115.
*Attachment for Artificial Working Hands. V. Putti.—p. 122.

Fracture of the Clavicle.—Catterina reviews the various methods in vogue for treating war and peace fractures of the clavicle, and describes his experiences with seven different technics applied on the cadaver. He also describes the findings with radiologic control on the living, and the ultimate outcome. With a subcutaneous fracture of the clavicle, no apparatus will guarantee perfect coaptation of the fragments, and hence he advocates surgical treatment as the only means to reduce the fragments and ensure their perfect contention. If this is not deemed advisable, the arm should be immobilized in abduction or inward rotation.

Purulent Arthritis of the Tarsus.—Uffreduzzi and Serafini commend Obalinski's method for resection of the tarsus with rebellious suppurating wounds of the foot.

Orthopedic Treatment of Fractured Femur and Humerus.—Camera gives illustrations of some simple devices to facilitate orthopedic treatment of firearm wounds with fracture of the femur or humerus.

Operative Treatment of Causalgia.—In D'Agata's case there was paralysis of the nerves forming the brachial plexus, in addition to the causalgia—all the result of a war wound. The nerves were found embedded in a mass of cicatricial tissue which was excised, releasing the nerves. The pains subsided at once but soon returned, although there was progressive improvement in other symptoms. As the causalgia persisted unbearable, two months later he resected the nerve sheath enveloping the brachial artery, freeing it by this periarterial sympathectomy for a stretch of 12 cm. This cured the pains, and the motor disturbances have gradually retrogressed. Before the operations the condition had been growing slowly but steadily worse. The neurolysis affected favorably the neuritic pains, but the periarterial sympathectomy put an end to the vasomotor, trophic and secretory disturbances.

Secondary Treatment of War Stumps.—Chiasserini pleads for amputations by technics that will ensure better against conical stumps. The best way to manage these stumps after protracted suppuration seems to be with an osteoplastic reamputation after the local inflammatory process has subsided or become much attenuated. It may even be possible to loosen up the tissues around enough for a plastic operation without cutting the bone further, as he shows with a few illustrations of some cases.

Partial Amputation of the Hand.—Delitala discusses this subject from the standpoint of the prosthesis. In some of the devices illustrated the fingers of the prosthesis are immovably curved but the thumb is movable, or vice versa, and is controlled by the movements of the stump of the hand inside the prosthesis. This is possible even with amputation close to the carpus.

Attachments for Working Hands.—Putti's illustrations show the simple harness which fastens the working prosthesis to the stump and body, thus reenforcing the stump with the strength of the body. One illustration shows the whole body suspended from the working claw hand hooked over a branch. Another shows a tug-of-war between two men whose claw hands are hooked together.

Gazzetta degli Ospedali e delle Cliniche, Milan

Feb. 20, 1919, **40**, No. 15

Epidemic Influenza and Three-Day Fever in Catania in 1918. G. de G. Giunta.—p. 113.

Feb. 23, 1919, **40**, No. 16

*Summer Raynaud's Disease. N. Samaja.—p. 123.

Feb. 27, 1919, **40**, No. 17

War Mutism and Its Treatment. F. Brunetti and L. Giaculli.—p. 129.

Summer Raynaud's Disease.—In Castellino's 1895 compilation of 316 cases of Raynaud's disease, syphilis was incriminated as responsible for the affection in 22 cases; malaria in 19; alcoholism and arteriosclerosis in 16; diabetes in 23; tuberculosis in 14; pernicious anemia in 9; leukemia, nephritis and heart disease in from 8 to 12 each; typhoid, pneumonia and rheumatism in less than 5, and a neurosis in 171 cases. But in all of them the action of cold was the provocative factor. The cold need not be severe, even the change from a warm bed, getting up in a cool room, may be enough to bring on the disturbances. He reviews what has been written on the subject, and then describes a case that differs from all others in that the disturbances came on for the first time in August. The attacks of pain, numbness and cyanosis in feet and hands then returned regularly every morning and lasted from 8 till 10. The young man was of a frail constitution and had been sent to the hospital for disordered heart action but no organic defect could be found except that the spleen was enlarged. The attacks recurred every morning but subsided completely in November under vigorous quinin treatment. The blood was not examined for hematozoa but the response to quinin confirmed the assumption of a malarial origin as the young soldier had been serving in a malarial region.

Pediatria, Naples

March, 1919, **27**, No. 3

*Calcium by the Vein in Spasmophilia. S. Maggiore.—p. 129.
*The Urochromogen Reaction in Children. U. Provinciali.—p. 139.
*Autograft in the Radius. N. Caprioli.—p. 151.
*Pituitary Insufficiency from Adenoids. P. Caliceti.—p. 161.

Calcium by the Vein in Spasmophilia.—Maggiore injected calcium intravenously in eight children with tetany, mostly with rachitis. The youngest was 20 months, the oldest 10 years old, and electric tests were applied just before and at one, two, three, four, twelve, forty-eight and seventy-two hours thereafter. The dose was 1, 2, 3 or 5 cg. of calcium chlorid with enough of the vehicle to make 5 c.c. Each child was treated twice. No inconveniences were observed from the intravenous administration, while the drug promptly reduced the galvanic excitability of the nerves. This effect was most pronounced by the third hour and began to decline by the twelfth. The responses to the electric tests became approximately normal, and this effect was equally apparent with the second application of the drug.

The Urochromogen Reaction in Children.—Provinciali was unable to obtain any characteristic findings with Weiss' urochromogen reaction in tuberculosis, typhoid or paratyphoid. A positive response is obtained in almost all prolonged febrile conditions.

Autograft for the Radius.—Caprioli remarks that autografts come under the head of physiology rather than of surgery, and that they deserve a wider application. In a case described, a healthy boy of 10 developed a psudarthrosis after a fracture of the forearm which had suppurated for two months. The bone had become demineralized and had shrunken in size. He gives an illustrated description of the implanting of a graft taken from the tibia, the whole done at one sitting. The success was complete. This case confirms the advantages of cutting the grafts without preventive hemostasis. When implanting it, however, the blood should be entirely expelled from the region. The graft was kept in sterile gauze while the bed was being prepared for it.

Pituitary Disturbance from Adenoids.—Caliceti refers to the way in which the pituitary may be damaged by adenoids. The resulting set of symptoms was described by Citelli, and Caliceti here reports two new cases and reaffirms the immense importance of prophylaxis, removing adenoids before they have time to injure the pituitary and entail, secondarily, disturbances in development both of body and mind. The body assumes a feminine aspect and there is more or less tendency to feeblemindedness. This can be arrested in some cases by pituitary treatment, but removal of the adenoids is indispensable also. Even adults with this "Citelli syndrome" are often rendered brighter, more alert and dependable by pituitary treatment, as in the case of a soldier here described.

Policlinico, Rome

March 2, 1919, **26.** No. 9

Etiology of Influenza. F. Micheli and G. Satta.—p. 257. Conc'n.
Physiopathology of Aviators. L. Manginelli.—p. 261.
*Prophylaxis of Influenza. V. E. Ovazza.—p. 271.
*Treatment of Influenza. S. Avagnina.—p. 272.
Opium Preparations in Cardiovascular Disease. G. Sabatini.—p. 275.

Influenza.—Ovazza records that although a number of persons contracted the influenza anew on its return in the fall, after having had it in the spring, yet the return cases were strikingly mild and always free from complications. This sustains the conception of a relative immunization, at least. He comments on the important change which seems to have been realized, almost simultaneously, in the hospitals thoroughout the world, namely, the refusal to admit visitors. The experiences in the pandemic seem also to have removed the lay dread of "going to the hospital" as practically equivalent to going to one's death. It is our task now to foster the idea that the hospital offers numerous advantages over the care in the home, and that the sick should discourage the visits of friends as liable to inflict complications on the sick while spreading disease outside. He denounces further the closing of schools unless the children are kept strictly in the house. Otherwise the children meet in the streets, and some children do not get any cleaning up except for school. There is no sense in closing the schools unless at the same time all public meeting places, street cars, etc., are abandoned likewise.

Treatment of Influenza.—Avagnina found bradycardia comparatively common in his over 2,000 cases of influenza, and it was constant in all those with bronchopneumonia. This confirms the assumption that influenza causes a vagotonic tendency, and it emphasizes further the inadvisability of giving digitalis in bronchopneumonia of influenzal origin.

Riforma Medica, Naples

March 1, 1919, **35.** No. 9

*Primary Afebrile Malaria. E. Mondolfo.—p. 165.
Brain Wounds: Two Cases. U. Saraval.—p. 168.
Treatment of War Psychoneuroses. G. Pellacani.—p. 170.
Phenol in Treatment of Influenza. S. Orlando.—p. 173.
Examination of Balancing Function. A. Azzi.—p. 177.

Afebrile Primary Malaria.—Mondolfo reports the case of a corporal of 43 who presented symptoms of grave anemia and the parasites of malignant tertian were found in the blood, but nothing was known of any febrile attacks. He had been under treatment for supposed nephritis until the blood findings cleared up the diagnosis; under quinin, recovery was soon complete.

Rivista Critica di Clinica Medica, Florence

Feb. 1, 1919, **20.** No. 5

A Field Hospital in the Upper Alps. L. Castaldi.—p. 49.

Brazil Medico, Rio de Janeiro

Feb. 1, 1919, **33.** No. 5

*Leprosy at Rio de Janeiro. F. Terra.—p. 33. Concluded in No. 6, —p. 41.
Acrophagia. J. Cardoso.—p. 36.

Leprosy at Rio de Janeiro.—Terra quotes early authorities who commented on the fine, healthy appearance of the natives of Brazil when Europeans first appeared there. Nothing like leprosy seems to have been ever noted among them. It is scarcely likely that the negroes brought from Africa in such numbers imported the disease, as the slave dealers were careful to bring only selected specimens. Some years as many as 60,000 Africans were sold into slavery in Brazil, but in 1850 this practice was repressed by legislation. The Portuguese who colonized the country seem to have imported leprosy. It was first noted about 1600. In 1766 a total of 300 cases were known at Rio, with a population of 60,000. There has been no census of lepers taken at any time, but Terra concludes from his personal investigations and the hospital records that there are now about 450 or 500 cases—350 lepers are officially known. This for a population of 1 million shows that leprosy has not increased proportionately to the increase in the population. He urges the founding of a leper farm colony.

Cronica Medica, Lima

January, 1919, **36.** No. 667

*Operative Treatment of Chronic Constipation. B. H. Zapata.—p. 1.
The Public Hospital System of Lima. C. A. Bambarén.—p. 21.

Operative Treatment of Chronic Constipation.—Zapata relates the details of eight cases to emphasize the importance of operative treatment in certain cases of chronic constipation in which nothing but removal of adhesions, binding the bowel at some point, could possibly have given relief. He warns that constipation of a merely medical character may induce the formation of adhesions around some point where there is retention of feces. Prevention of adhesions and kinks depends also on prophylaxis of inflammatory processes in the peritoneum. Each case requires individual treatment, and the eight described show the wide range of indications to correct kinks, membrane formation, ptosis, or other anomaly responsible for the intractable constipation.

Gaceta Medica de Caracas

Feb. 15, 1919, **26.** No. 3

*Emetin with Amebic Liver Abscess. E. P. de Bellard.—p. 25.
*Balantidium Dysentery. E. P. de Bellard.—p. 27.

Amebic Liver Abscess.—The abscess in the first of de Bellard's two cases had developed insidiously, ten months after a mild and brief attack of dysentery. The symptoms were almost exclusively from the lung forced up by the tumor in the liver. The case had been mistakenly labeled "advanced pulmonary tuberculosis plus malarial hepatitis." The large abscess in the other case had been ascribed merely to simple hepatitis. The right lobe of the liver was involved in both, and after aspiration of the contents of the abscess, emetin was injected into the cavity: 0.15 gm. of emetin in 30 c.c. of distilled water. Recovery was prompt and complete. The pus aspirated totaled 2,850 c.c. in one case and 1,900 c.c. in the other in which two abscesses were found. The operation had been preceded by subcutaneous injection of 0.04 gm. emetin, morning and evening, for three or four days.

Balantidium Dysentery.—De Bellard reports another case of balantidium dysentery, the twenty-eighth published in Venezuela and the fourth he has encountered himself. In the 154 cases on record the mortality was 23 per cent. In his four cases the domestic animals shared the family dwelling place. In his latest case the man of 50 had been ailing for two years with a debilitating diarrhea and severe abdominal pains, vertigo and headache, and discomfort in the colon region. The colon was flushed twice a day with 1 l. of a 1 per

thousand solution of quinin sulphate, and 3 drops of an iodin-iodid solution (Lugol's solution) were taken internally three times a day. Improvement followed at once, and in a week the stools were free from the balantidium with which they had swarmed before.

Observaciones y Notas, San Cristóbal, Venezuela

January, 1919, **1**, No. 10

*Emetin by the Vein. C. J. Bello.—p. 190.
*Pseudo-Adnexitis of Hysteric Origin. H. Sanchez B. and C. J. Bello.—p. 202.

February, 1919, **1**, No. 11

Infection with Enlarged Prostate. H. Sanchez B.—p. 210.
Horse Serum as Hemostatic. H. Sanchez B. and C. J. Bello.—p. 213.
*Abscess in the Liver. C. J. Bello and H. Sanchez B.—p. 217.

Emetin by the Vein.—Bello tabulates a number of cases in which emetin has been administered intravenously by different clinicians in various countries in treatment of amebic dysentery. He also gives the details of eleven cases from his own practice. All this testimony shows apparent tolerance for the doses employed. The only deaths were in the cases in which the ameba was not responsible for the dysentery, and the disease continued its fatal course. One boy of 12 with dysentery for two months was given 0.21 gm. of emetin by the vein in five days, the first dose 0.07 gm. The cure was complete and permanent, and the drug caused absolutely no disturbances. The tolerance was complete in all his cases even when up to 0.28 gm. was given in five days. The cases with other intestinal parasites were the most refractory.

Pseudo-Ovaritis in the Hysteric.—Sanchez and Bello report two cases in which at the laparotomy—on the presumptive diagnosis of ovaritis or salpingitis—the adnexa were found intact in one and with an insignificant cyst in the other case. Both women were permanently cured, over one year to date, by the laparotomies.

Liver Abscesses.—Bello and Sanchez remark that tropical liver abscess has become a much less serious affection since emetin treatment has been introduced. It may cure alone, but in cases of long standing, it should be supplemented with operative treatment. The latter is much less serious when reenforced with emetin than it used to be, as they show by six clinical cases reported.

Plus Ultra, Madrid

October, 1918, **1**, No. 4

The True Mechanism of Skiascopy. I. M. Marquez.—p. 175.
Recent Progress in our Knowledge of Heart Disease. A. Mut.—p. 183.
*Treatment of Malaria by Special Technic. J. M. Casares y Bescanza.—p. 186.
Recent Progress in Therapeutics and Pharmacology. J. Sanchis Banús.—p. 188.
Anatomy of the Bile Ducts. P. Belou.—p. 191.
Recent Progress in Medicine. Camacho Alejandre.—p. 197.
Factitious Industrial Accidents. A. Oller.—p. 199.
Recent Progress in Bacteriology. L. Lamas Ojea.—p. 204.
Gastric Syphilis. Iñigo.—p. 208.
Recent Progress in Ophthalmology. T. Barraquer.—p. 212.
Bacteriology of Influenzal Bronchopneumonia. J. A. Palanca.—p. 214.
The Prevailing Epidemic at Sevilla. A. Salvat.—p. 219.
Rapid Demonstration of Pale Spirochetes by Modified Zettnow Technic. N. Calvin.—p. 228.
Recent Progress in Surgery. A. Perera.—p. 232.

The "Plus Ultra."—This recently founded medical monthly is unique in several respects: its large size, 11 by 15 inches, its large plates in color photography, its numerous collective or synthetic reviews on different branches of medicine and surgery, and its high price, 70 pesetas a year, about $14. The paper and illustrations are of the best, and the name "Plus Ultra"—not "Non"—means "More Beyond." It aims for world-wide collaboration in the five principal languages. "Plus Ultra" is the proud motto of Spain. She dropped the "Non" when she added the Western Continent to the world.

Technic for Administration of Quinin in Malaria.—Casares treats malaria on what he says is a new principle, and states that 897 of his 1,072 malaria patients were cured by a single course of four doses; 129 required a second course and forty-six a third. The complete cure a year later was verified in 340 cases. The reason why more than one course was required in some cases was because the quinin was not given at the right time, or the patient had vomited the drug, or had neglected to take the whole of the four doses ordered. He noticed that when the chill comes on, the malarial subject feels extremely thirsty and drinks copiously or can be persuaded to drink large amounts of water without distaste. Examining the stomach shows that there is no protrusion, the water being evidently absorbed at once. Absorption in the stomach proceeds more rapidly when the water contains certain salts, especially chlorids. When the chill begins, the skin looks pale and there is more or less "goose flesh"; the blood is driven inward from the surface and there is hyperemia in the internal organs. As the chill subsides, the blood rushes to the surface of the body. While the internal arteries and veins are congested in this way, the return of the venous blood to the heart is impeded, and it is to regulate this that the thirst at this time is due. The quinin should reach the young parasites during their least resistant phase, that is, at the beginning of the chill. This can be accomplished by having the patient drink a large quantity of water containing less than 0.50 gm. of quinin. As the water is absorbed so rapidly, it diffuses through the whole vascular system and acts on the parasites in their remotest haunts as effectually as if the drug had been injected internally. He gives 0.20 gm. of quinin, with an arsenical preparation, on four successive days, always at the same hour, the first dose at the beginning of the chill. The paroxysm is more severe than previously, treated in this way, but no symptoms of toxic action from the drug are apparent.

Prensa Medica Argentina, Buenos Aires

Feb. 10, 1919, **5**, No. 25

*Gummatous Pelvic Cellulitis. M. R. Castex.—p. 245.
Coxalgia in Boy of Ten from Inherited Syphilis. J. C. Vivaldo.—p. 246.
*Adaptation of Micro-Organisms and Phagocytosis. A. Bachmann.—p. 248.
Lesions of Nerve Fibers in Alcoholism. A. Jones.—p. 249.
*Cerebral Nystagmus. R. Argañaraz.—p. 250. Conc'n.
*Sugar Treatment of Pulmonary Tuberculosis. A. Raimondi.—p. 251.

Gummatous Pelvic Cellulitis.—Castex recently encountered two cases of gummatous pelvic cellulitis in the course of three months in men of 28 and 32. Intestinal disturbances had been noted for several months and a large tumor could be palpated, filling the pelvis but evidently not encroaching on the peritoneal cavity. There had been considerable loss of weight in both cases, and a sarcoma was suspected in the first. Signs of inherited syphilis were pronounced in one of the men; in the other it was impossible to tell whether the syphilis had been inherited or acquired. The remarkably good general condition suggested the possibility of gummatous cellulitis instead of malignant disease, and under intensive treatment for syphilis the whole clinical picture subsided completely in two or three months. The gummatous infiltration through the cavity of Luschka readily explained the symptoms from the rectum, bladder and prostate in both cases. The peritoneum was pushed up. In conclusion, Castex warns that the treatment had to be both intensive and prolonged to realize the complete cure. He knows of only one similar case on record, that reported by Fournier in 1912 in which the cellulitis had been the work of inherited syphilis in a man of 34.

Adaptation of Microbes to the Medium.—Bachmann's experimental research apparently establishes that when typhoid bacilli, for example, are injected into the peritoneum of a guinea-pig, they become transformed in a way that enables them to resist phagocytosis. This phase does not last long, but during it the bacilli seem to generate products which have the effect of repelling the leukocytes from the peritoneal cavity. The consequence is that, after this phase, although the bacilli no longer resist phagocytosis, yet there are not enough phagocytes present to make any impression on them.

Cerebral Nystagmus.—Argañaraz presents anatomic and experimental evidence which apparently demonstrates that conjugated deviation of the eyes, paralyses of association, and nystagmus are symptoms from lesions all located in the

same anatomic territory; this he describes and explains with charts. He analyzes the spasmodic type of nystagmus, from irritation of the cortex, and the paralytic type, and reviews the features of the nystagmus accompanying different affections involving the cerebrospinal axis.

Sugar Treatment of Pulmonary Tuberculosis.—Raimondi found that injections of saccharose by Lo Monaco's technic gradually reduced expectoration and the cough but did not modify the fever. He was impressed with the value of the vasoconstricting action in combating the tendency to hemoptysis. The leukocytes increased in number, particularly the neutrophil polynuclears, while the lymphocytes declined in numbers and the general health improved, but the pulmonary process did not seem to be influenced with the sugar treatment in the least, in his experience at the Hospital Tornu.

Rev. Sud-Amer. de Endocrinologia, etc., Buenos Aires

Jan. 15, 1919, **2**, No. 13

*Tubercle Bacilli and Iodin Vapors. S. Dessy.—p. 1.
*Emetin with Amebic Liver Abscess. R. A. Marotta.—p. 3.

Tubercle Bacilli Cultures Subjected to Iodin Vapors.—Dessy places a few scraps of iodin in a perforated tube extending into an Erlenmeyer jar containing culture medium in which tubercle bacilli are growing. The tube does not touch the fluid below, but the vapors from the iodin escape through the perforation above. The virulence of the tubercle bacilli was attenuated thereby, but similar experiences with anthrax bacilli and staphylococci show that the latter are more susceptible than tubercle bacilli.

Emetin with Amebic Liver Abscess.—Marotta insists that emetin should always be given a trial at least before operating for an amebic abscess in the liver. In his fifty cases, nearly all the patients recovered under the subcutaneous injection of emetin alone. At most, puncture and aspiration of the pus supplemented the emetin.

Semana Medica, Buenos Aires

Jan. 23, 1919, **26**, No. 4

*Spermatic Fluid as Aid in Diagnosis of Syphilis. V. Widakovich and M. Sires.—p. 79.
Thread Drainage of Hydrocele. J. Nin Posadas.—p. 81.
Relation Between Sanitary Progress and the Pandemic of Influenza. E. R. Coni.—p. 87.
*Improved Test Tubes for Research on the Blood. C. A. Grau.—p. 89.
Artificial Cells. A. L. Herrera.—p. 99.

Diagnosis of Syphilis from Spermatic Fluid.—Widakovich and Sires were impressed by the large proportion of deformed spermatozoa found in the spermatic fluid of syphilitics in comparison with normal conditions. In their examination of normal spermatic fluid they found only about 4.54 per thousand spermatozoa with two heads, two tails or other malformations, but in the syphilitics the proportion averaged 26.12, and in one syphilitic of 20, whose infection dated from sixteen months and had been given energetic treatment, the Wassermann reaction veering to negative, 19 spermatozoa were found with two tails, 7 with two heads, 6 with three tails, 7 with two heads and two tails, one with a small head and four tails, one with two heads and three tails, and other pathologic forms to a total of 101 in each thousand specimens. Another young man of the same age and other conditions, free from venereal disease, had only 11 per thousand pathologic forms. The proportions did not vary much in examinations at different intervals. One man with positive Wassermann reaction whose wife had had two abortions, showed 57 per thousand pathologic spermatozoa but the proportion dropped to 32 per thousand after energetic arsphenamin treatment. They spread small drops of the fresh semen on a slide, exposing it to the fumes of 1 per cent. osmic acid until it looks slightly grayish, and drying in the air like a specimen of blood. They stain with a mixture of recently saturated and filtered anilin water (agua de anilina) with as many drops of a saturated alcoholic solution of gentian violet as are needed to give the metallic glitter to the scum on the surface of the fluid. The stain is left in contact for two to five seconds and is then rinsed off for thirty to sixty seconds with running water.

Improved Test Tubes for Research on the Blood.—The advantages are obvious of the tubes which Grau proposes for sending blood for examination and for other purposes. They are ordinary test tubes which are heated in the flame till the glass softens, a short distance from the bottom. Then with a nail the glass is forced inward, partly closing the lumen at this point from both sides. A similar constriction is then made at a point a little further along, the lumen thus presenting two narrower points. The tube just above the middle is drawn out to make the whole tube narrower for a certain stretch. An opening can be made below this by heating the glass at the desired point and blowing into the tube from the top, fusing the top afterward. The blood can be injected from the syringe into this opening, and it clots much more completely and more evenly in the tube with these two narrow beadlike constrictions than in an ordinary tube, and the coagulum does not get shaken around and broken up in transit. Or, when the clot has entirely retracted, the tube can be inverted and the serum collecting in the other end of the tube can be hermetically sealed as in an ampule by breaking the tube in the middle and fusing the end.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Feb. 1, 1919, **1**, No. 5

*Torsion of the Pedicle of the Spleen. J. W. Kopp.—p. 379.
*The Nails with Arsenical Polyneuritis. R. A. Mees.—p. 391.

Torsion of the Pedicle of the Spleen.—Kopp concludes from a personal case reported in detail and study of the literature, that splenectomy should be the routine treatment with torsion of a movable spleen. He even advocates splenectomy as a precautionary measure when the movable spleen is large and liable to make trouble later. Otherwise he insists that the movable spleen must be replaced and fastened. Some believe that the congested spleen, once replaced, will become reduced to normal size, but Hall observed nothing of the kind in his eight cases in the course of the following year. The mortality with splenectomy for torsion of the spleen, was 11.5 per cent. in the thirty-five cases compiled. The sudden onset with intense pain and symptoms from the peritoneum, the tumor developing in a few hours, its shape suggesting that of a large spleen, and the absence of the normal area of dulness over the spleen, aid in differentiating torsion of the spleen. There is no rigidity of the abdominal wall at first. He warns against reducing the torsion, with splenopexy, as the organ may have been too much damaged to recuperate. Splenopexy may be followed by recurrence; and reduction of the spleen, trusting to adhesions to fasten it in place, usually proves illusory.

The Nails with Arsenical Polyneuritis.—Mees has encountered three cases in which an attempt at suicide or murder, with arsenic, was followed by the development of a broad white band or frame in the finger nails. All the nails were affected, and as the white band reached the outer edge of the nails it grew less distinct. After discussing this phenomenon from various points of view, he expresses his conviction, and gives his reasons therefor, to the effect that the white band is an actual deposit of arsenic in the nails. The discovery of these broad white bands in the nails with arsenical polyneuritis will confirm the diagnosis. The band is still distinct long after the arsenic has disappeared from the urine.

Hospitalstidende, Copenhagen

Jan. 22, 1919, **62**, No. 4

*Ulnar Neuritis After Trauma of Elbow. A. V. Neel.—p. 97. Commenced in No. 3, p. 65.
Narcotic Action of Magnesium Salts. H. C. Gram.—p. 110. Cont'n.

Ulnar Neuritis After Injury of the Elbow.—The special feature of five of the ten cases reported by Neel is that about fifty years had elapsed between the trauma of the elbow and the neuritis. The trauma had occurred at the age of 2, 4, 5, 6, 16 and 17, and in a number of cases on record the trauma had occurred in childhood although the deforming arthritis did not develop until adult life. In five of his ten cases the elbow was in a valgus position. The elbow may develop serious disturbance after an apparently slight trauma. When the elbow is held partly flexed all the time, the full excur-

sions of the elbow thus hindered, the ulnar nerve is kept constantly stretched. In his other five cases, the intervals had been from twenty-five to thirty-five years. The paresthesias and pain spreading through the forearm, especially on the ulnar side, and the inability to use the thumb as usual are generally the first symptoms. As a rule, the elbow shows such changes that the trouble is recognized at once, but the connection with such remote trauma is hard to establish. In one of his cases the atrophy of muscles from the pathologic condition of the ulnar nerve—a consequence of the deforming arthritis in the elbow—was ascribed to some process acting on the spinal cord, and a futile exploratory laminectomy had been done. This mistake was made also in some of the cases on record. After the numbness and other sensory disturbances in the ulnar domain first attract attention, the course is rapid, the paresthesias and pains growing more pronounced during the following six months to a year and the hand growing weaker. The changes in the elbow are of different kinds but all injure the ulnar nerve, the resulting lesions being an interstitial neuritis with hypertrophy of the nerve, or a more acute process. As the condition is usually of such long standing, there is not much hope of relief from operative measures. The nerve has generally adapted itself to the exostoses.

Hygiea, Stockholm

Feb. 28, 1919, **81**, No. 4

*Primary Sarcoma in the Pleura. R. Roman.—p. 174.

Sarcoma in the Pleura.—Roman was impressed by the absence of cough and expectoration in the young man who otherwise had presented symptoms of pleurisy with effusion for several weeks. The local pain kept at the same point, and puncture released a hemorrhagic effusion but there was none of the usual relief thereafter. A tumor finally became apparent, confirmed by necropsy a month later which disclosed round-cell sarcomatous bunches scattered over the costal pleura.

Nordiskt Medicinskt Arkiv, Stockholm

Jan. 24, 1919, **51**, Surgical Section No. 3

*Rupture of Intestine from Contusion. G. Söderlund.—p. 191. In German.

Rupture of the Intestine from Contusion.—Söderlund discusses separately the clinical picture and indications with intraperitoneal and retroperitoneal subcutaneous rupture of the bowel, describing 16 cases of the former given operative treatment at the surgical clinic at Uppsala or Gothenburg since 1910; also 37 cases of retroperitoneal rupture on record, including 8 in which no operation was attempted and one case from his own experience. The general symptoms, shock and the temperature and pulse are instructive when they confirm the local findings but otherwise are not decisive. In the dubious cases, the patient once in the hospital, hourly or still more frequent examination of the abdomen, watching for spontaneous pain or aggravation of already existing pain, and tenderness in the abdominal wall, with palpation of the rectum, watching for tenderness or bulging of the rectal wall, and percussion, seeking for dulness in the region of the contusion, will warn of incipient peritonitis. He wiped out the abdominal cavity but never rinsed, suturing at once without draining. Over 72 per cent. of the patients recovered, and the fatal cases were the severer cases from the first. With a retroperitoneal rupture, operative treatment is difficult to plan and to carry out, the posterior wall of the bowel being hard to reach and still harder to suture. In most cases the resulting phlegmon spreads in the right side to the right kidney and along the psoas down to the pelvis. In his case, however, the phlegmon was on the left side. Death may follow from the diffuse peritonitis set up by the phlegmon or from its exceptionally toxic action. The greatest danger, however, is that when the abdomen has been opened, the retroperitoneal rupture may escape discovery. This occurred in 11 of the cases cited from the literature. The most characteristic finding is a bulging of the posterior parietal peritoneum in the region of the duodenum. Suture of a retroperitoneal rupture is not so easy as with the intraperitoneal, and in some of the cases the suture gave way, but, on the other hand, 3 of the patients were saved by a suture alone, and this seems indicated in the cases with comparatively small rupture, that is, not longer than half the periphery of the bowel, or when the wall of the bowel has not been much crushed, or the trauma is comparatively recent, that is, with an interval of less than twelve hours. One case in which simple suture was done after an interval of seventeen hours terminated fatally while the patient recovered in another case with interval of only nine hours. Gastro-enterostomy, to spare the suture strain, was done in some cases but the advantages of this do not seem great enough to complicate the operation with it in most cases. Exclusion of the pylorus might be considered in connection with it as making the result more certain. But the general condition of the patient must decide here. Kranz resected the duodenum and sutured both stumps, finishing with anterior gastro-enterostomy; his patient died the twenty-eighth hour thereafter. In 2 of the cases with simple suture done after an interval of seventeen and twenty-four hours, the suture burst; resection of the injured stretch might have saved these patients; both of the men lived a week. Catgut had been used, but the necropsy findings showed that it would have made no difference if the suture had been done with silk. Söderlund discusses further the special technics for rupture at different points in the bowel.

Ugeskrift for Læger, Copenhagen

Feb. 13, 1919, **81**, No. 7

*Idiopathic Dilatation of the Esophagus. J. P. Gregersen.—p. 273.
*The Wassermann Reaction in Public Hospital. E. Meulengracht.—p. 283.
Dietary of Average Family in Denmark in 1916. M. V. Bjørum and P. Heiberg.—p. 287.
*Treatment of Dryness in the Throat. J. Kragh.—p. 308.

Idiopathic Dilatation of the Esophagus.—Gregersen discusses the present status of our knowledge of idiopathic dilatation of the esophagus, saying that in the majority of cases it is the result of spasm of the cardia. Occasionally, however, it is due to paralysis of the musculature of the esophagus, and he reports a case of this latter kind. The cardia was of normal size, but the esophagus musculature did not work properly. He corrected the resulting condition by enlarging the opening of the cardia. This allowed the food in the esophagus to drop into the stomach by its own weight, and there were no further disturbances. The cardia was dilated in the simplest and easiest way by introducing a catheter passed through a rubber bag, fastened airtight to the catheter, commencing near the tip and extending back for some distance. After the tip has been pushed through the cardia, the rubber bag is inflated with air or filled with water, the pressure regulated by a manometer. Regular and strong pressure can thus be exerted on the cardia, as the rubber bag can be inflated to a circumference of 12 cm. The rubber bag is made with two layers of rubber with one of silk between.

The Wassermann Reaction at a General Hospital.—Meulengracht states that a positive reaction was obtained in 4 per cent. of 504 of the patients in the medical service of the Rigshospital. In 1.2 per cent. the positive reaction was all that called attention to the syphilis. Less than 50 per cent. were aware of their infection or even suspected its possibility. Nearly 15 per cent. of the patients with cardiovascular disease were syphilitic, and 12 per cent. of the nephritics.

Chronic Dry Rhinopharyngitis.—Kragh describes a few cases in which after an operation on the nose, or spontaneously, the throat became so dry and parched as to be a constant annoyance. He reasoned that the dryness was the result of too rapid and ample passage of the air through the nasopharynx, not allowing it time to get the normal impregnation with moisture. To remedy this, he advised the patients to wear a small pledget of cotton in each side of the nose, not large enough to interfere with the breathing but checking to some extent the inflow of air, and catching some of the moisture in the outgoing air so that the entering air had a better chance to become slightly moist. The results surpassed his anticipations. The patients wear the pledgets only when they feel the need of them. His communication is given in Society Proceedings.